


STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐

APPLICATION FOR PERMIT TO DRILL				1. WELL NAME and NUMBER NBU 1022-10A4BS		
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>				3. FIELD OR WILDCAT NATURAL BUTTES		
4. TYPE OF WELL Gas Well <input type="checkbox"/> Coalbed Methane Well: NO <input type="checkbox"/>				5. UNIT or COMMUNITIZATION AGREEMENT NAME NATURAL BUTTES		
6. NAME OF OPERATOR KERR-MCGEE OIL & GAS ONSHORE, L.P.				7. OPERATOR PHONE 720 929-6587		
8. ADDRESS OF OPERATOR P.O. Box 173779, Denver, CO, 80217				9. OPERATOR E-MAIL mary.mondragon@anadarko.com		
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) UO 01197A		11. MINERAL OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>		12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>		
13. NAME OF SURFACE OWNER (if box 12 = 'fee')				14. SURFACE OWNER PHONE (if box 12 = 'fee')		
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')				16. SURFACE OWNER E-MAIL (if box 12 = 'fee')		
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')		18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/>		19. SLANT VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>		
20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	1067 FNL 1463 FEL	NWNE	10	10.0 S	22.0 E	S
Top of Uppermost Producing Zone	805 FNL 621 FEL	NENE	10	10.0 S	22.0 E	S
At Total Depth	805 FNL 621 FEL	NENE	10	10.0 S	22.0 E	S
21. COUNTY UINTAH		22. DISTANCE TO NEAREST LEASE LINE (Feet) 621		23. NUMBER OF ACRES IN DRILLING UNIT 203		
		25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 624		26. PROPOSED DEPTH MD: 8784 TVD: 8600		
27. ELEVATION - GROUND LEVEL 5058		28. BOND NUMBER 22013542		29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE Permit #43-8496		
ATTACHMENTS						
VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES						
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER			<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN			
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)			<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER			
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)			<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP			
NAME Kathy Schneebeck-Dulnoan		TITLE Staff Regulatory Analyst		PHONE 720 929-6007		
SIGNATURE		DATE 04/22/2009		EMAIL Kathy.SchneebeckDulnoan@anadarko.com		
API NUMBER ASSIGNED 43047503610000		APPROVAL  Permit Manager				

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Prod	7.875	4.5	0	8784		
Pipe	Grade	Length	Weight			
	Grade N-80 LT&C	8784	11.6			

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Surf	12.25	9.625	0	2050		
Pipe	Grade	Length	Weight			
	Grade J-55 LT&C	2050	36.0			

T10S, R22E, S.L.B.&M.

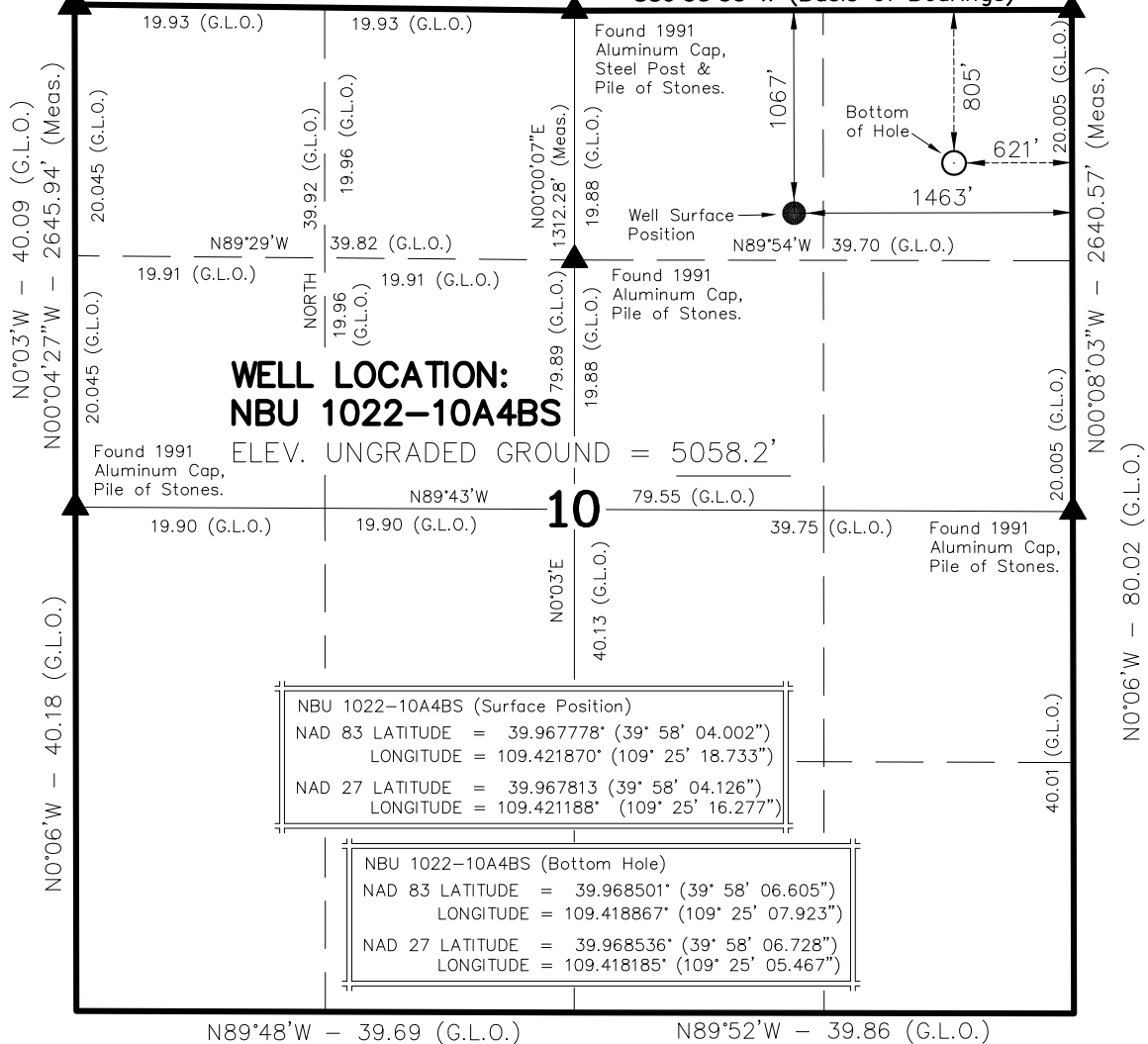
Found 1991
Aluminum Cap,
Pile of Stones.

N89°15'W 39.86 (G.L.O.)
N89°16'38"W - 2630.43' (Meas.)

S89°55'W 39.65 (G.L.O.)
2616.59' (Measured)

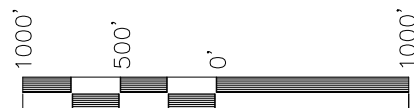
S89°53'55"W (Basis of Bearings)

Found 1991
Aluminum Cap,
Steel Post &
Pile of Stones.



NOTES:

- ▲ = Section Corners Located
- 1. Well footages are measured at right angles to the Section Lines.
- 2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
- 3. The Bottom of hole bears N72°35'54"E 882.12' from the Surface Position.
- 4. Bearings are based on Global Positioning Satellite observations.
- 5. Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.



SCALE

SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 362251
STATE OF UTAH
Kerry R. Kay

Kerr-McGee

Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

NBU 1022-10A4BS

WELL PLAT

805' FNL, 621' FEL (Bottom Hole)

**NE ¼ NE ¼ OF SECTION 10, T10S, R22E,
S.L.B.&M. UTAH COUNTY, UTAH.**

CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE

ENGINEERING & LAND SURVEYING, INC.

209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365

DATE SURVEYED: 09-15-08	SURVEYED BY: M.S.B.	SHEET 4 OF 13
DATE DRAWN: 10-06-08	DRAWN BY: E.M.S.	
SCALE: 1" = 1000'	Date Last Revised: 01-22-09	



ANADARKO PETROLEUM CORP.

UINTAH COUNTY, UTAH (nad 27)

NBU 1022-10B PAD

NBU 1022-10A4BS

NBU 1022-10A4BS

Plan: Design #1

Standard Planning Report

12 December, 2008



'APIWellNo:43047503610000'



Project: UINTAH COUNTY, UTAH (nad 27)
 Site: NBU 1022-10B PAD
 Well: NBU 1022-10A4BS
 Wellbore: NBU 1022-10A4BS
 Design: Design #1
 Latitude: 39° 58' 4.116 N
 Longitude: 109° 25' 16.284 W
 GL: 5055.00
 KB: WELL @ 5075.00ft (Original Well Elev)



Weatherford

WELL DETAILS: NBU 1022-10A4BS

+N/-S	+E/-W	Northing	Ground Level: Easting	5055.00 Latitude	Longitude	Slot
0.00	0.00	14518238.60	2082792.97	39° 58' 4.116 N	109° 25' 16.284 W	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL_NBU 1022-10A4BS	8600.00	265.89	840.75	39° 58' 6.744 N	109° 25' 5.484 W	Circle (Radius: 25.00)

SECTION DETAILS

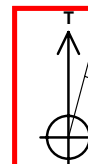
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1960.00	0.00	0.00	1960.00	0.00	0.00	0.00	0.00	0.00	
3	2958.73	29.96	72.45	2913.83	76.96	243.36	3.00	72.45	255.24	
4	3600.00	29.96	72.45	3469.40	173.53	548.72	0.00	0.00	575.51	
5	4798.48	0.00	0.00	4614.00	265.89	840.75	2.50	180.00	881.79	
6	8784.48	0.00	0.00	8600.00	265.89	840.75	0.00	0.00	881.79	PBHL_NBU 1022-10A4BS

LEGEND

— NBU 1022-10B1BS, NBU 1022-10B1BS, Design #1 V0
— NBU 1022-10B4BS, NBU 1022-10B4BS, Design #1 V0
— NBU 1022-10C1BS, NBU 1022-10C1BS, Design #1 V0
— NBU 231 ACTUAL, NBU 231 ACTUAL, NBU 231 ACTUAL V0
— Design #1

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
990.00	990.00	GRNR
1323.00	1323.00	BIRDSNEST
1816.00	1816.00	MAHOGANY
4114.00	4294.43	WSTC
6426.00	6610.48	DKCYN
7406.00	7590.48	MVU21
7973.00	8157.48	MVL1

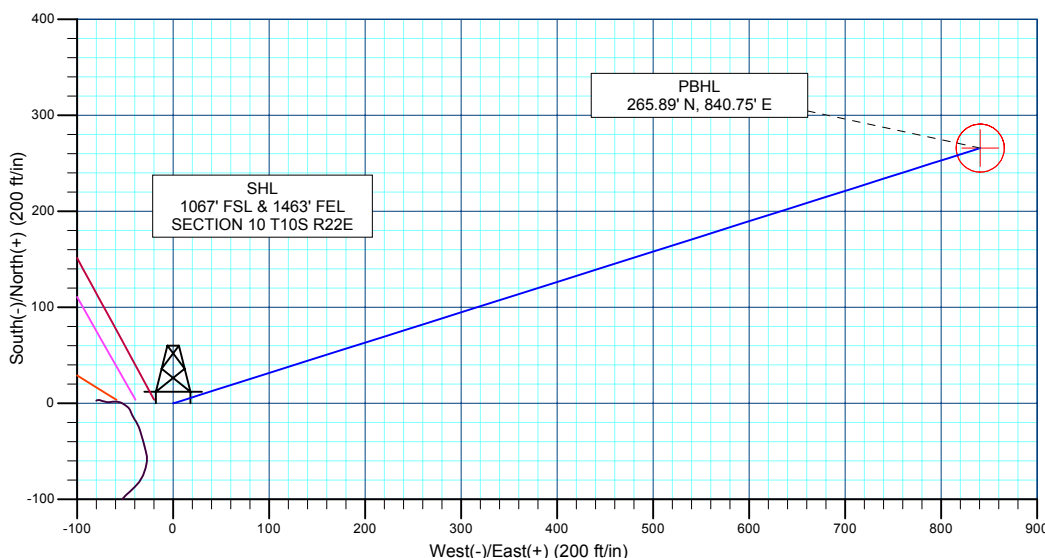
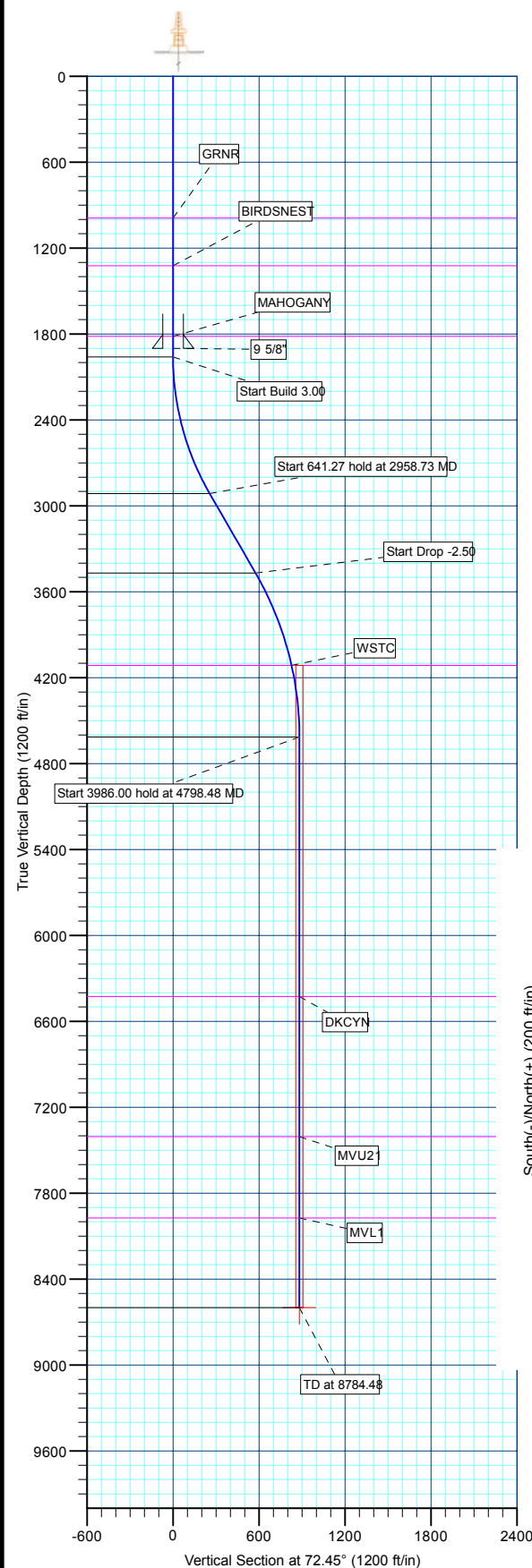


Azimuths to True North
 Magnetic North: 11.38°

Magnetic Field
 Strength: 52585.7nT
 Dip Angle: 65.95°
 Date: 12/12/2008
 Model: BGGM2008

CASING DETAILS

TVD	MD	Name	Size
1900.00	1900.00	9 5/8"	9.62



Plan: Design #1 (NBU 1022-10A4BS/NBU 1022-10A4BS)

Created By: ROBERT SCOTT

Date: 15:39, December 12 2008



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Site NBU 1022-10B PAD
Company:	ANADARKO PETROLEUM CORP.	TVD Reference:	WELL @ 5075.00ft (Original Well Elev)
Project:	UINTAH COUNTY, UTAH (nad 27)	MD Reference:	WELL @ 5075.00ft (Original Well Elev)
Site:	NBU 1022-10B PAD	North Reference:	True
Well:	NBU 1022-10A4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	NBU 1022-10A4BS		
Design:	Design #1		

Project	UINTAH COUNTY, UTAH (nad 27),		
Map System:	Universal Transverse Mercator (US Survey Fee	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 - Western US		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	NBU 1022-10B PAD, SECTION10 T10S R22E			
Site Position:		Northing:	14,518,238.60 ft	Latitude: 39° 58' 4.116 N
From:	Lat/Long	Easting:	2,082,792.97 ft	Longitude: 109° 25' 16.284 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence: 1.01 °

Well	NBU 1022-10A4BS			
Well Position	+N/-S	0.00 ft	Northing:	14,518,238.60 ft
	+E/-W	0.00 ft	Easting:	2,082,792.97 ft
Position Uncertainty	0.00 ft		Wellhead Elevation:	ft
			Ground Level:	5,055.00 ft

Wellbore	NBU 1022-10A4BS				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2008	12/12/2008	11.38	65.95	52,586

Design	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	72.45

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,960.00	0.00	0.00	1,960.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,958.73	29.96	72.45	2,913.83	76.96	243.36	3.00	3.00	0.00	72.45	
3,600.00	29.96	72.45	3,469.40	173.53	548.72	0.00	0.00	0.00	0.00	
4,798.48	0.00	0.00	4,614.00	265.89	840.75	2.50	-2.50	0.00	180.00	
8,784.48	0.00	0.00	8,600.00	265.89	840.75	0.00	0.00	0.00	0.00	PBHL_NBU 1022-1



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Project:	UINTAH COUNTY, UTAH (nad 27)	MD Reference:	WELL @ 5075.00ft (Original Well Elev)
Site:	NBU 1022-10B PAD	North Reference:	True
Well:	NBU 1022-10A4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	NBU 1022-10A4BS		
Design:	Design #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
1,960.00	0.00	0.00	1,960.00	0.00	0.00	0.00	0.00	0.00	0.00	
Start Build 3.00										
2,000.00	1.20	72.45	2,000.00	0.13	0.40	0.42	3.00	3.00	0.00	
2,100.00	4.20	72.45	2,099.87	1.55	4.89	5.13	3.00	3.00	0.00	
2,200.00	7.20	72.45	2,199.37	4.54	14.36	15.06	3.00	3.00	0.00	
2,300.00	10.20	72.45	2,298.21	9.10	28.78	30.18	3.00	3.00	0.00	
2,400.00	13.20	72.45	2,396.12	15.22	48.11	50.46	3.00	3.00	0.00	
2,500.00	16.20	72.45	2,492.83	22.87	72.30	75.83	3.00	3.00	0.00	
2,600.00	19.20	72.45	2,588.09	32.03	101.29	106.23	3.00	3.00	0.00	
2,700.00	22.20	72.45	2,681.62	42.69	134.99	141.58	3.00	3.00	0.00	
2,800.00	25.20	72.45	2,773.18	54.81	173.31	181.77	3.00	3.00	0.00	
2,900.00	28.20	72.45	2,862.51	68.36	216.14	226.69	3.00	3.00	0.00	
2,958.73	29.96	72.45	2,913.83	76.96	243.36	255.24	3.00	3.00	0.00	
Start 641.27 hold at 2958.73 MD										
3,000.00	29.96	72.45	2,949.58	83.18	263.01	275.85	0.00	0.00	0.00	
3,100.00	29.96	72.45	3,036.22	98.24	310.63	325.79	0.00	0.00	0.00	
3,200.00	29.96	72.45	3,122.86	113.30	358.25	375.73	0.00	0.00	0.00	
3,300.00	29.96	72.45	3,209.49	128.36	405.86	425.68	0.00	0.00	0.00	
3,400.00	29.96	72.45	3,296.13	143.41	453.48	475.62	0.00	0.00	0.00	
3,500.00	29.96	72.45	3,382.76	158.47	501.10	525.56	0.00	0.00	0.00	
3,600.00	29.96	72.45	3,469.40	173.53	548.72	575.51	0.00	0.00	0.00	
Start Drop -2.50										
3,700.00	27.46	72.45	3,557.10	188.02	594.52	623.54	2.50	-2.50	0.00	
3,800.00	24.96	72.45	3,646.81	201.34	636.63	667.71	2.50	-2.50	0.00	
3,900.00	22.46	72.45	3,738.36	213.46	674.97	707.92	2.50	-2.50	0.00	
4,000.00	19.96	72.45	3,831.57	224.37	709.46	744.10	2.50	-2.50	0.00	
4,100.00	17.46	72.45	3,926.28	234.04	740.05	776.18	2.50	-2.50	0.00	
4,200.00	14.96	72.45	4,022.30	242.46	766.67	804.09	2.50	-2.50	0.00	
4,294.43	12.60	72.45	4,114.00	249.24	788.11	826.59	2.50	-2.50	0.00	
WSTC										
4,300.00	12.46	72.45	4,119.44	249.61	789.27	827.80	2.50	-2.50	0.00	
4,400.00	9.96	72.45	4,217.52	255.47	807.80	847.24	2.50	-2.50	0.00	
4,500.00	7.46	72.45	4,316.36	260.04	822.24	862.38	2.50	-2.50	0.00	
4,600.00	4.96	72.45	4,415.77	263.30	832.56	873.20	2.50	-2.50	0.00	
4,700.00	2.46	72.45	4,515.55	265.25	838.73	879.68	2.50	-2.50	0.00	
4,798.48	0.00	0.00	4,614.00	265.89	840.75	881.79	2.50	-2.50	-73.57	
Start 3986.00 hold at 4798.48 MD										
4,800.00	0.00	0.00	4,615.52	265.89	840.75	881.79	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,715.52	265.89	840.75	881.79	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,815.52	265.89	840.75	881.79	0.00	0.00	0.00	
5,100.00	0.00	0.00	4,915.52	265.89	840.75	881.79	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,015.52	265.89	840.75	881.79	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,115.52	265.89	840.75	881.79	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,215.52	265.89	840.75	881.79	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,315.52	265.89	840.75	881.79	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,415.52	265.89	840.75	881.79	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,515.52	265.89	840.75	881.79	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,615.52	265.89	840.75	881.79	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,715.52	265.89	840.75	881.79	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,815.52	265.89	840.75	881.79	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,915.52	265.89	840.75	881.79	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,015.52	265.89	840.75	881.79	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,115.52	265.89	840.75	881.79	0.00	0.00	0.00	



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Site NBU 1022-10B PAD
Company:	ANADARKO PETROLEUM CORP.	TVD Reference:	WELL @ 5075.00ft (Original Well Elev)
Project:	UINTAH COUNTY, UTAH (nad 27)	MD Reference:	WELL @ 5075.00ft (Original Well Elev)
Site:	NBU 1022-10B PAD	North Reference:	True
Well:	NBU 1022-10A4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	NBU 1022-10A4BS		
Design:	Design #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,400.00	0.00	0.00	6,215.52	265.89	840.75	881.79	0.00	0.00	0.00
6,500.00	0.00	0.00	6,315.52	265.89	840.75	881.79	0.00	0.00	0.00
6,600.00	0.00	0.00	6,415.52	265.89	840.75	881.79	0.00	0.00	0.00
6,610.48	0.00	0.00	6,426.00	265.89	840.75	881.79	0.00	0.00	0.00
DKCYN									
6,700.00	0.00	0.00	6,515.52	265.89	840.75	881.79	0.00	0.00	0.00
6,800.00	0.00	0.00	6,615.52	265.89	840.75	881.79	0.00	0.00	0.00
6,900.00	0.00	0.00	6,715.52	265.89	840.75	881.79	0.00	0.00	0.00
7,000.00	0.00	0.00	6,815.52	265.89	840.75	881.79	0.00	0.00	0.00
7,100.00	0.00	0.00	6,915.52	265.89	840.75	881.79	0.00	0.00	0.00
7,200.00	0.00	0.00	7,015.52	265.89	840.75	881.79	0.00	0.00	0.00
7,300.00	0.00	0.00	7,115.52	265.89	840.75	881.79	0.00	0.00	0.00
7,400.00	0.00	0.00	7,215.52	265.89	840.75	881.79	0.00	0.00	0.00
7,500.00	0.00	0.00	7,315.52	265.89	840.75	881.79	0.00	0.00	0.00
7,590.48	0.00	0.00	7,406.00	265.89	840.75	881.79	0.00	0.00	0.00
MVU21									
7,600.00	0.00	0.00	7,415.52	265.89	840.75	881.79	0.00	0.00	0.00
7,700.00	0.00	0.00	7,515.52	265.89	840.75	881.79	0.00	0.00	0.00
7,800.00	0.00	0.00	7,615.52	265.89	840.75	881.79	0.00	0.00	0.00
7,900.00	0.00	0.00	7,715.52	265.89	840.75	881.79	0.00	0.00	0.00
8,000.00	0.00	0.00	7,815.52	265.89	840.75	881.79	0.00	0.00	0.00
8,100.00	0.00	0.00	7,915.52	265.89	840.75	881.79	0.00	0.00	0.00
8,157.48	0.00	0.00	7,973.00	265.89	840.75	881.79	0.00	0.00	0.00
MVL1									
8,200.00	0.00	0.00	8,015.52	265.89	840.75	881.79	0.00	0.00	0.00
8,300.00	0.00	0.00	8,115.52	265.89	840.75	881.79	0.00	0.00	0.00
8,400.00	0.00	0.00	8,215.52	265.89	840.75	881.79	0.00	0.00	0.00
8,500.00	0.00	0.00	8,315.52	265.89	840.75	881.79	0.00	0.00	0.00
8,600.00	0.00	0.00	8,415.52	265.89	840.75	881.79	0.00	0.00	0.00
8,700.00	0.00	0.00	8,515.52	265.89	840.75	881.79	0.00	0.00	0.00
8,784.48	0.00	0.00	8,600.00	265.89	840.75	881.79	0.00	0.00	0.00
PBHL_NBU 1022-10A4BS									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,900.00	1,900.00	9 5/8"	9.62	12.25	



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Site NBU 1022-10B PAD
Company:	ANADARKO PETROLEUM CORP.	TVD Reference:	WELL @ 5075.00ft (Original Well Elev)
Project:	UINTAH COUNTY, UTAH (nad 27)	MD Reference:	WELL @ 5075.00ft (Original Well Elev)
Site:	NBU 1022-10B PAD	North Reference:	True
Well:	NBU 1022-10A4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	NBU 1022-10A4BS		
Design:	Design #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
990.00	990.00	GRNR		0.00		
1,323.00	1,323.00	BIRDSNEST		0.00		
1,816.00	1,816.00	MAHOGANY		0.00		
4,294.43	4,114.00	WSTC		0.00		
6,610.48	6,426.00	DKCYN		0.00		
7,590.48	7,406.00	MVU21		0.00		
8,157.48	7,973.00	MVL1		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,960.00	1,960.00	0.00	0.00	Start Build 3.00	
2,958.73	2,913.83	76.96	243.36	Start 641.27 hold at 2958.73 MD	
3,600.00	3,469.40	173.53	548.72	Start Drop -2.50	
4,798.48	4,614.00	265.89	840.75	Start 3986.00 hold at 4798.48 MD	
8,784.48	8,600.00	265.89	840.75	TD at 8784.48	



ANADARKO PETROLEUM CORP.

**UINTAH COUNTY, UTAH (nad 27)
NBU 1022-10B PAD
NBU 1022-10A4BS**

**NBU 1022-10A4BS
Design #1**

Anticollision Report

12 December, 2008





Weatherford International Ltd.

Anticollision Report



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Site NBU 1022-10B PAD
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5075.00ft (Original Well Elev)
Reference Site:	NBU 1022-10B PAD	MD Reference:	WELL @ 5075.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	NBU 1022-10A4BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	NBU 1022-10A4BS	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference	Design #1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 10,000.00ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic

Survey Tool Program		Date	12/12/2008		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	8,784.48	Design #1 (NBU 1022-10A4BS)	MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
NBU 1022-10B PAD						
NBU 1022-10B4BS - NBU 1022-10B4BS - Design #1	1,960.00	1,960.00	19.95	11.41	2.336	CC, ES, SF

Offset Design	NBU 1022-10B PAD - NBU 1022-10B4BS - NBU 1022-10B4BS - Design #1												Offset Site Error:	0.00 ft
Survey Program:	0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Distance	Minimum Separation	Separation Factor	Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	(°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-79.48	3.64	-19.62	19.95					
100.00	100.00	100.00	100.00	0.09	0.09	-79.48	3.64	-19.62	19.95	19.77	0.18	110.965		
200.00	200.00	200.00	200.00	0.31	0.31	-79.48	3.64	-19.62	19.95	19.32	0.63	31.704		
300.00	300.00	300.00	300.00	0.54	0.54	-79.48	3.64	-19.62	19.95	18.87	1.08	18.494		
400.00	400.00	400.00	400.00	0.76	0.76	-79.48	3.64	-19.62	19.95	18.42	1.53	13.055		
500.00	500.00	500.00	500.00	0.99	0.99	-79.48	3.64	-19.62	19.95	17.97	1.98	10.088		
600.00	600.00	600.00	600.00	1.21	1.21	-79.48	3.64	-19.62	19.95	17.53	2.43	8.220		
700.00	700.00	700.00	700.00	1.44	1.44	-79.48	3.64	-19.62	19.95	17.08	2.88	6.935		
800.00	800.00	800.00	800.00	1.66	1.66	-79.48	3.64	-19.62	19.95	16.63	3.33	5.998		
900.00	900.00	900.00	900.00	1.89	1.89	-79.48	3.64	-19.62	19.95	16.18	3.78	5.284		
1,000.00	1,000.00	1,000.00	1,000.00	2.11	2.11	-79.48	3.64	-19.62	19.95	15.73	4.23	4.722		
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-79.48	3.64	-19.62	19.95	15.28	4.68	4.268		
1,200.00	1,200.00	1,200.00	1,200.00	2.56	2.56	-79.48	3.64	-19.62	19.95	14.83	5.12	3.894		
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	-79.48	3.64	-19.62	19.95	14.38	5.57	3.580		
1,400.00	1,400.00	1,400.00	1,400.00	3.01	3.01	-79.48	3.64	-19.62	19.95	13.93	6.02	3.312		
1,500.00	1,500.00	1,500.00	1,500.00	3.24	3.24	-79.48	3.64	-19.62	19.95	13.48	6.47	3.082		
1,600.00	1,600.00	1,600.00	1,600.00	3.46	3.46	-79.48	3.64	-19.62	19.95	13.03	6.92	2.882		
1,700.00	1,700.00	1,700.00	1,700.00	3.69	3.69	-79.48	3.64	-19.62	19.95	12.58	7.37	2.706		
1,800.00	1,800.00	1,800.00	1,800.00	3.91	3.91	-79.48	3.64	-19.62	19.95	12.13	7.82	2.551		
1,900.00	1,900.00	1,900.00	1,900.00	4.14	4.14	-79.48	3.64	-19.62	19.95	11.68	8.27	2.412		
1,960.00	1,960.00	1,960.00	1,960.00	4.27	4.27	-79.48	3.64	-19.62	19.95	11.41	8.54	2.336	CC, ES, SF	
2,000.00	2,000.00	1,999.73	1,999.73	4.36	4.36	-151.58	4.01	-19.82	20.59	11.87	8.71	2.362		
2,100.00	2,099.87	2,098.64	2,098.52	4.57	4.58	-148.67	8.06	-22.02	27.72	18.60	9.13	3.037		
2,200.00	2,199.37	2,196.24	2,195.63	4.78	4.80	-145.66	16.46	-26.59	42.81	33.28	9.53	4.492		
2,300.00	2,298.21	2,291.62	2,289.95	5.02	5.03	-143.60	28.87	-33.34	65.71	55.78	9.93	6.617		
2,400.00	2,396.12	2,386.92	2,383.72	5.29	5.27	-142.94	43.85	-41.50	94.89	84.56	10.33	9.187		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Weatherford International Ltd.
Anticollision Report



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Site NBU 1022-10B PAD
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5075.00ft (Original Well Elev)
Reference Site:	NBU 1022-10B PAD	MD Reference:	WELL @ 5075.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	NBU 1022-10A4BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	NBU 1022-10A4BS	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design NBU 1022-10B PAD - NBU 1022-10B4BS - NBU 1022-10B4BS - Design #1												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
2,500.00	2,492.83	2,481.20	2,476.46	5.60	5.53	-143.72	58.72	-49.58	128.10	117.38	10.72	11.950	
2,600.00	2,588.09	2,573.86	2,567.62	5.98	5.80	-144.98	73.33	-57.53	165.37	154.26	11.11	14.885	
2,700.00	2,681.62	2,664.67	2,656.96	6.44	6.07	-146.32	87.64	-65.32	206.76	195.26	11.50	17.975	
2,800.00	2,773.18	2,753.36	2,744.21	7.00	6.34	-147.60	101.62	-72.93	252.31	240.42	11.90	21.210	
2,900.00	2,862.51	2,839.70	2,829.14	7.67	6.62	-148.74	115.24	-80.33	302.01	289.71	12.30	24.559	
2,958.73	2,913.83	2,889.21	2,877.86	8.12	6.78	-149.34	123.04	-84.58	333.11	320.57	12.54	26.569	
3,000.00	2,949.58	2,923.68	2,911.76	8.46	6.89	-150.09	128.47	-87.53	355.48	342.70	12.77	27.828	
3,100.00	3,036.22	3,007.20	2,993.93	9.31	7.17	-151.58	141.64	-94.70	409.83	396.46	13.37	30.661	
3,200.00	3,122.86	3,090.72	3,076.09	10.20	7.45	-152.73	154.81	-101.86	464.34	450.35	13.98	33.204	
3,300.00	3,209.49	3,174.24	3,158.25	11.13	7.74	-153.63	167.98	-109.02	518.95	504.32	14.62	35.490	
3,400.00	3,296.13	3,257.76	3,240.41	12.08	8.03	-154.36	181.14	-116.19	573.63	558.35	15.28	37.551	
3,500.00	3,382.76	3,341.28	3,322.58	13.05	8.32	-154.97	194.31	-123.35	628.37	612.42	15.94	39.412	
3,600.00	3,469.40	3,424.80	3,404.74	14.04	8.62	-155.48	207.48	-130.52	683.15	666.53	16.62	41.099	
3,700.00	3,557.10	3,509.42	3,487.99	14.92	8.92	-156.47	220.82	-137.77	736.28	718.85	17.43	42.237	
3,800.00	3,646.81	3,596.16	3,573.33	15.66	9.23	-157.19	234.49	-145.21	785.99	767.77	18.22	43.138	
3,900.00	3,738.36	3,684.85	3,660.57	16.35	9.56	-157.70	248.47	-152.82	832.17	813.17	19.00	43.796	
4,000.00	3,831.57	3,775.32	3,749.57	16.98	9.89	-158.03	262.74	-160.58	874.74	854.97	19.77	44.253	
4,100.00	3,926.28	3,867.39	3,840.14	17.55	10.23	-158.20	277.25	-168.48	913.62	893.11	20.51	44.541	
4,200.00	4,022.30	3,960.89	3,932.13	18.05	10.58	-158.25	291.99	-176.50	948.76	927.53	21.23	44.685	
4,300.00	4,119.44	4,055.64	4,025.34	18.49	10.93	-158.17	306.93	-184.62	980.10	958.18	21.92	44.708	
4,400.00	4,217.52	4,151.47	4,119.61	18.86	11.29	-157.98	322.04	-192.84	1,007.63	985.05	22.58	44.627	
4,500.00	4,316.36	4,269.88	4,236.46	19.17	11.64	-157.66	338.87	-202.00	1,030.38	1,007.18	23.20	44.407	
4,600.00	4,415.77	4,392.85	4,358.53	19.41	11.95	-157.41	351.87	-209.07	1,046.96	1,023.22	23.73	44.112	
4,700.00	4,515.55	4,517.64	4,482.93	19.59	12.22	-157.24	360.33	-213.68	1,057.20	1,033.03	24.17	43.738	
4,798.48	4,614.00	4,641.51	4,606.72	19.71	12.43	-84.69	364.02	-215.69	1,061.01	1,036.51	24.50	43.298	
4,800.00	4,615.52	4,643.42	4,608.63	19.72	12.44	-84.69	364.04	-215.70	1,061.02	1,036.51	24.51	43.289	
4,900.00	4,715.52	4,750.31	4,715.52	19.83	12.62	-84.68	364.22	-215.79	1,061.11	1,036.25	24.86	42.680	
5,000.00	4,815.52	4,850.31	4,815.52	19.94	12.80	-84.68	364.22	-215.79	1,061.11	1,035.89	25.21	42.084	
5,100.00	4,915.52	4,950.31	4,915.52	20.05	12.98	-84.68	364.22	-215.79	1,061.11	1,035.54	25.57	41.500	
5,200.00	5,015.52	5,050.31	5,015.52	20.17	13.16	-84.68	364.22	-215.79	1,061.11	1,035.18	25.93	40.927	
5,300.00	5,115.52	5,150.31	5,115.52	20.29	13.34	-84.68	364.22	-215.79	1,061.11	1,034.82	26.29	40.365	
5,400.00	5,215.52	5,250.31	5,215.52	20.41	13.53	-84.68	364.22	-215.79	1,061.11	1,034.46	26.65	39.814	
5,500.00	5,315.52	5,350.31	5,315.52	20.53	13.71	-84.68	364.22	-215.79	1,061.11	1,034.09	27.02	39.275	
5,600.00	5,415.52	5,450.31	5,415.52	20.65	13.90	-84.68	364.22	-215.79	1,061.11	1,033.72	27.39	38.747	
5,700.00	5,515.52	5,550.31	5,515.52	20.78	14.09	-84.68	364.22	-215.79	1,061.11	1,033.35	27.76	38.229	
5,800.00	5,615.52	5,650.31	5,615.52	20.90	14.28	-84.68	364.22	-215.79	1,061.11	1,032.98	28.13	37.722	
5,900.00	5,715.52	5,750.31	5,715.52	21.03	14.47	-84.68	364.22	-215.79	1,061.11	1,032.60	28.51	37.225	
6,000.00	5,815.52	5,850.31	5,815.52	21.16	14.66	-84.68	364.22	-215.79	1,061.11	1,032.23	28.88	36.739	
6,100.00	5,915.52	5,950.31	5,915.52	21.29	14.85	-84.68	364.22	-215.79	1,061.11	1,031.85	29.26	36.262	
6,200.00	6,015.52	6,050.31	6,015.52	21.43	15.04	-84.68	364.22	-215.79	1,061.11	1,031.46	29.64	35.796	
6,300.00	6,115.52	6,150.31	6,115.52	21.56	15.24	-84.68	364.22	-215.79	1,061.11	1,031.08	30.03	35.339	
6,400.00	6,215.52	6,250.31	6,215.52	21.70	15.43	-84.68	364.22	-215.79	1,061.11	1,030.70	30.41	34.892	
6,500.00	6,315.52	6,350.31	6,315.52	21.83	15.63	-84.68	364.22	-215.79	1,061.11	1,030.31	30.80	34.454	
6,600.00	6,415.52	6,450.31	6,415.52	21.97	15.83	-84.68	364.22	-215.79	1,061.11	1,029.92	31.19	34.024	
6,700.00	6,515.52	6,550.31	6,515.52	22.11	16.02	-84.68	364.22	-215.79	1,061.11	1,029.53	31.58	33.604	
6,800.00	6,615.52	6,650.31	6,615.52	22.26	16.22	-84.68	364.22	-215.79	1,061.11	1,029.14	31.97	33.193	
6,900.00	6,715.52	6,750.31	6,715.52	22.40	16.42	-84.68	364.22	-215.79	1,061.11	1,028.75	32.36	32.789	
7,000.00	6,815.52	6,850.31	6,815.52	22.54	16.62	-84.68	364.22	-215.79	1,061.11	1,028.35	32.76	32.394	
7,100.00	6,915.52	6,950.31	6,915.52	22.69	16.82	-84.68	364.22	-215.79	1,061.11	1,027.96	33.15	32.008	
7,200.00	7,015.52	7,050.31	7,015.52	22.84	17.02	-84.68	364.22	-215.79	1,061.11	1,027.56	33.55	31.629	
7,300.00	7,115.52	7,150.31	7,115.52	22.98	17.22	-84.68	364.22	-215.79	1,061.11	1,027.16	33.95	31.257	
7,400.00	7,215.52	7,250.31	7,215.52	23.13	17.42	-84.68	364.22	-215.79	1,061.11	1,026.76	34.35	30.894	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Weatherford International Ltd.
Anticollision Report



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Site NBU 1022-10B PAD
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5075.00ft (Original Well Elev)
Reference Site:	NBU 1022-10B PAD	MD Reference:	WELL @ 5075.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	NBU 1022-10A4BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	NBU 1022-10A4BS	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design NBU 1022-10B PAD - NBU 1022-10B4BS - NBU 1022-10B4BS - Design #1												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
7,500.00	7,315.52	7,350.31	7,315.52	23.28	17.62	-84.68	364.22	-215.79	1,061.11	1,026.36	34.75	30.537	
7,600.00	7,415.52	7,450.31	7,415.52	23.44	17.83	-84.68	364.22	-215.79	1,061.11	1,025.96	35.15	30.188	
7,700.00	7,515.52	7,550.31	7,515.52	23.59	18.03	-84.68	364.22	-215.79	1,061.11	1,025.55	35.55	29.845	
7,800.00	7,615.52	7,650.31	7,615.52	23.74	18.23	-84.68	364.22	-215.79	1,061.11	1,025.15	35.96	29.510	
7,900.00	7,715.52	7,750.31	7,715.52	23.90	18.44	-84.68	364.22	-215.79	1,061.11	1,024.74	36.36	29.181	
8,000.00	7,815.52	7,850.31	7,815.52	24.06	18.64	-84.68	364.22	-215.79	1,061.11	1,024.34	36.77	28.858	
8,100.00	7,915.52	7,950.31	7,915.52	24.21	18.85	-84.68	364.22	-215.79	1,061.11	1,023.93	37.18	28.542	
8,200.00	8,015.52	8,050.31	8,015.52	24.37	19.05	-84.68	364.22	-215.79	1,061.11	1,023.52	37.59	28.232	
8,300.00	8,115.52	8,150.31	8,115.52	24.53	19.26	-84.68	364.22	-215.79	1,061.11	1,023.11	38.00	27.928	
8,400.00	8,215.52	8,250.31	8,215.52	24.69	19.47	-84.68	364.22	-215.79	1,061.11	1,022.70	38.41	27.629	
8,500.00	8,315.52	8,350.31	8,315.52	24.85	19.67	-84.68	364.22	-215.79	1,061.11	1,022.29	38.82	27.337	
8,600.00	8,415.52	8,450.31	8,415.52	25.02	19.88	-84.68	364.22	-215.79	1,061.11	1,021.88	39.23	27.050	
8,700.00	8,515.52	8,550.31	8,515.52	25.18	20.09	-84.68	364.22	-215.79	1,061.11	1,021.47	39.64	26.768	
8,784.48	8,600.00	8,634.79	8,600.00	25.32	20.26	-84.68	364.22	-215.79	1,061.11	1,021.12	39.99	26.534	

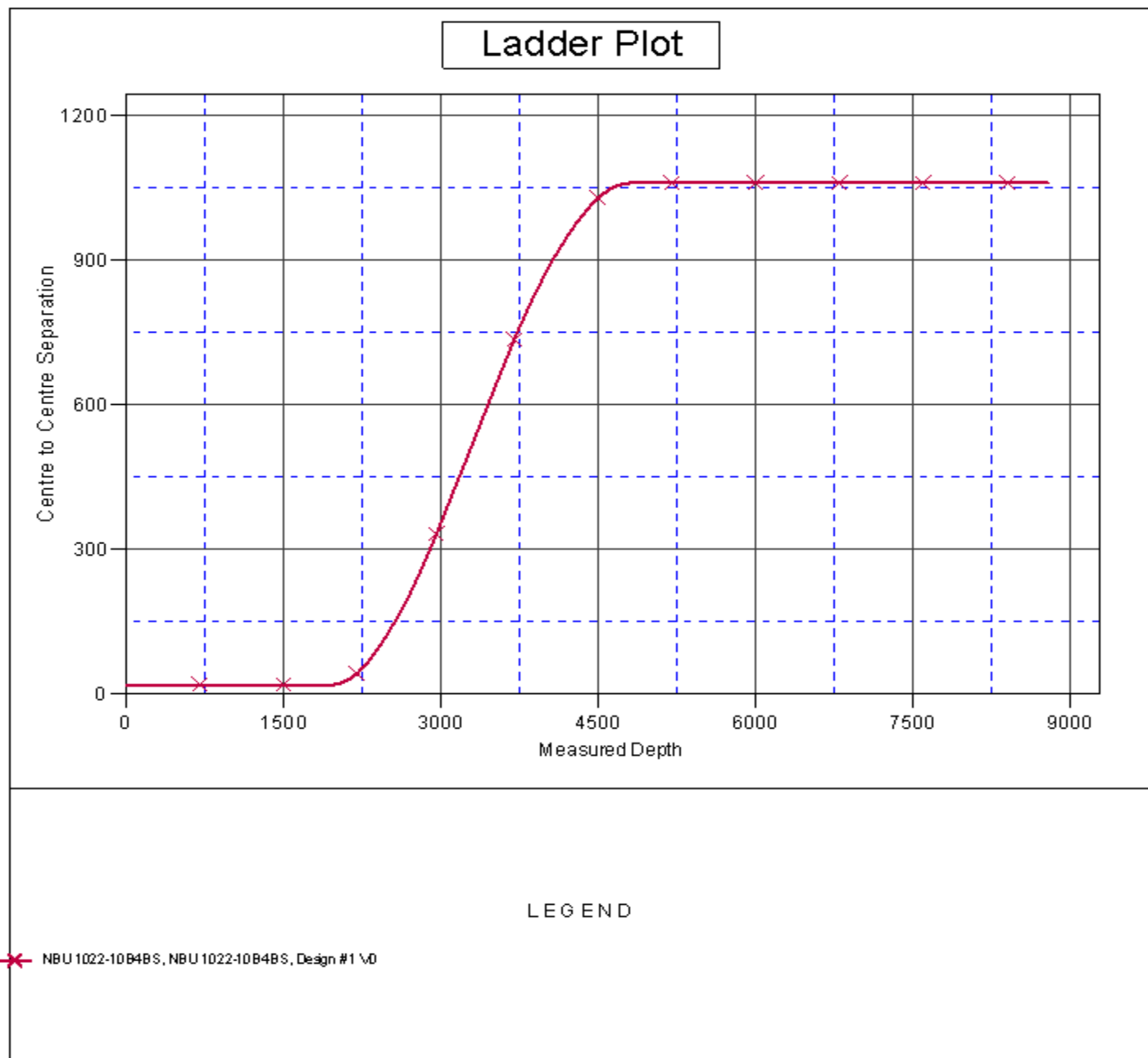
Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Site NBU 1022-10B PAD
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5075.00ft (Original Well Elev)
Reference Site:	NBU 1022-10B PAD	MD Reference:	WELL @ 5075.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	NBU 1022-10A4BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	NBU 1022-10A4BS	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5075.00ft (Original Well Elev) Coordinates are relative to: NBU 1022-10B PAD

Offset Depths are relative to Offset Datum

Coordinate System is Universal Transverse Mercator (US Survey Feet), Zone 12N

Grid Convergence at Surface is: 1.01°



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Site NBU 1022-10B PAD
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5075.00ft (Original Well Elev)
Reference Site:	NBU 1022-10B PAD	MD Reference:	WELL @ 5075.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	NBU 1022-10A4BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	NBU 1022-10A4BS	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5075.00ft (Original Well Elev)Coordinates are relative to: NBU 1022-10B PAD

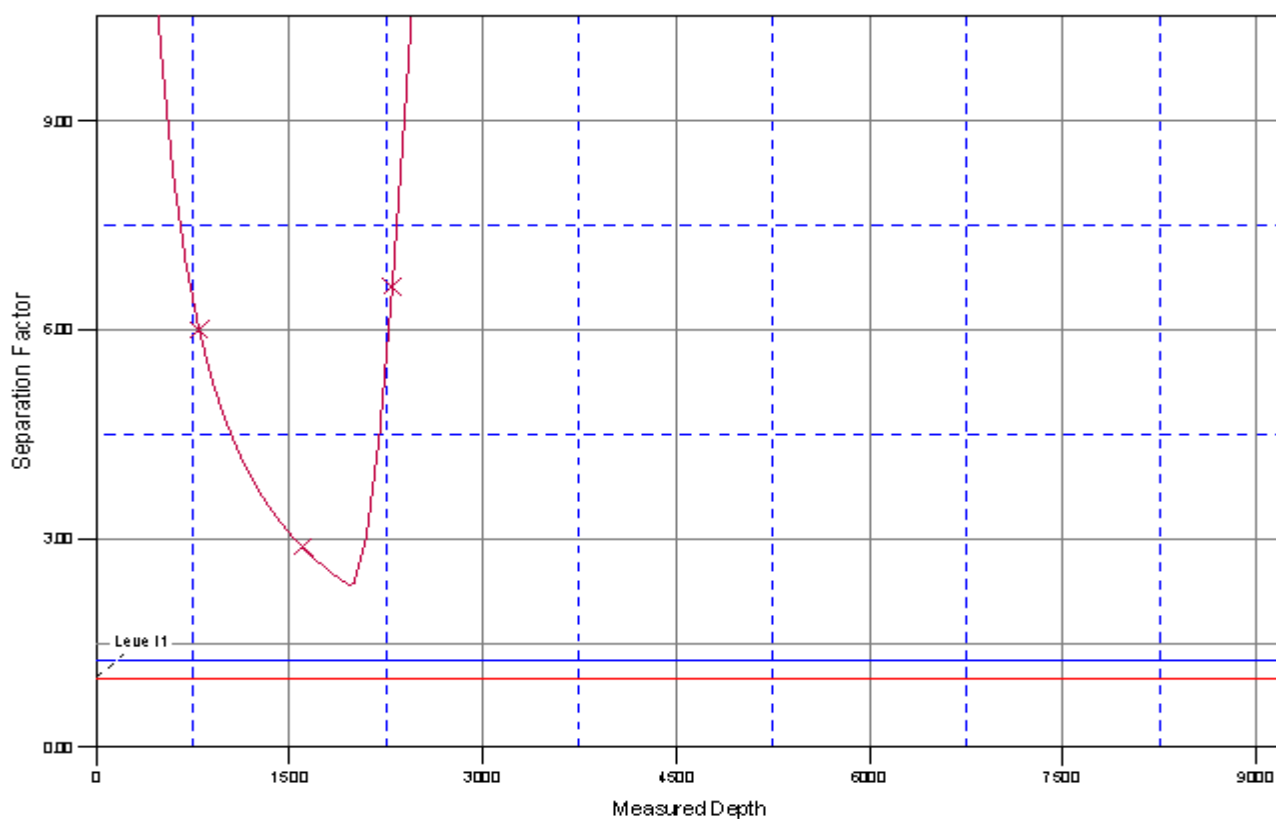
Offset Depths are relative to Offset Datum

Coordinate System is Universal Transverse Mercator (US Survey Feet), Zone 12N

Central Meridian is 111° 0' 0.000 W °

Grid Convergence at Surface is: 1.01°

Separation Factor Plot



LEGEND

✕ NBU 1022-10B4BS, NBU 1022-10B4BS, Design #1 \0



Weatherford®

Weatherford International, Ltd

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Well Planning Denver Office:

+1.303.825.6558 Denver, Colorado

Robert Scott

Email: robert.scott@weatherford.com

NBU 1022-10A4BS

Pad: NBU 1022-10B (NBU 231)
Surface: 1,067' FNL, 1,463' FEL (NW/4NE/4)
BHL: 805' FNL 621' FEL (NE/4NE/4)
Sec. 10 T10S R22E

Uintah, Utah
Mineral Lease: UO 01197A

ONSHORE ORDER NO. 1

DRILLING PROGRAM

1. – 2. **Estimated Tops of Important Geologic Markers:**
Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 – Surface	
Green River	990'	
Birds Nest	1,323'	Water
Mahogany	1,816'	Water
Wasatch	4,114'	Gas
Mesaverde	6,426'	Gas
MVU2	7,406'	Gas
MVL1	7,973'	Gas
TVD	8,600'	
TD	8,784'	

3. **Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Drilling Program.

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program.

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program.

6. **Evaluation Program:**

Please refer to the attached Drilling Program.

7. Abnormal Conditions:

Maximum anticipated bottomhole pressure calculated at 8,784' TD, approximately equals 5,017 psi (calculated at 0.57 psi/foot).

Maximum anticipated surface pressure equals approximately 3,019 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

9. Variances:

Please refer to the attached Drilling Program.

Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

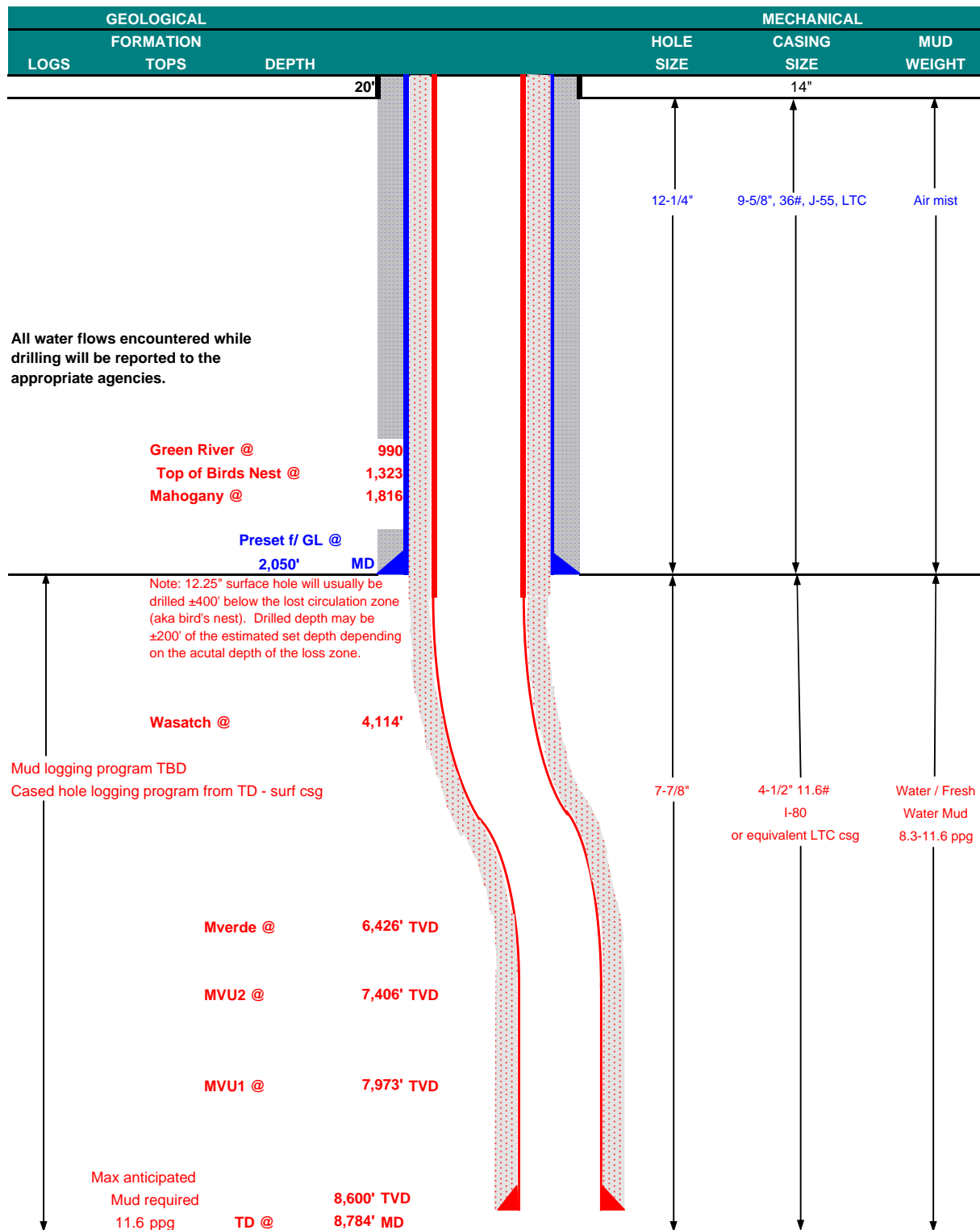
10. Other Information:

Please refer to the attached Drilling Program.



KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	April 22, 2009		
WELL NAME	NBU 1022-10A4BS					TD	8,600'	TVD	8,784' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	ELEVATION	5,058' GL	KB 5,073'
SURFACE LOCATION	NW/4 NE/4 1,067' FNL 1,463' FEL Sec 10 T 10S R 22E								
	Latitude: 39.967813		Longitude: -109.421188		NAD 27				
BTM HOLE LOCATION	NE/4 NE/4 805' FNL 621' FEL Sec 10 T 10S R 22E								
	Latitude: 39.968536		Longitude: -109.418185		NAD 27				
OBJECTIVE ZONE(S)	Wasatch/Mesaverde								
ADDITIONAL INFO	Regulatory Agencies: SITLA (Minerals), UDOGM (Surface), Tri-County Health Dept.								





KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'						
						3520	2020	453000
SURFACE	9-5/8"	0 to 2,050	36.00	J-55	LTC	1.05	2.11	7.81
						7,780	6,350	201,000
PRODUCTION	4-1/2"	0 to 8,784	11.60	I-80	LTC	2.31	1.20	2.26

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 11.6 ppg)

0.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

MASP 3,198 psi

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

(Burst Assumptions: TD = 11.6 ppg)

0.59 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

MABHP 5,199 psi

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500	Premium cmt + 2% CaCl	215	60%	15.60	1.18
			+ 0.25 pps flocele				
Option 1	TOP OUT CMT (1)	200	20 gals sodium silicate + Premium cmt	50		15.60	1.18
			+ 2% CaCl + 0.25 pps flocele				
	TOP OUT CMT (2)	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
SURFACE			NOTE: If well will circulate water to surface, option 2 will be utilized				
Option 2	LEAD	1500	65/35 Poz + 6% Gel + 10 pps gilsonite	360	35%	12.60	1.81
			+ .25 pps Flocele + 3% salt BWOW				
	TAIL	500	Premium cmt + 2% CaCl	180	35%	15.60	1.18
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION	LEAD	3,614'	Premium Lite II + 3% KCl + 0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	350	40%	11.00	3.38
	TAIL	5,170'	50/50 Poz/G + 10% salt + 2% gel + .1% R-3	1270	40%	14.30	1.31

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

John Huycke / Grant Schluender

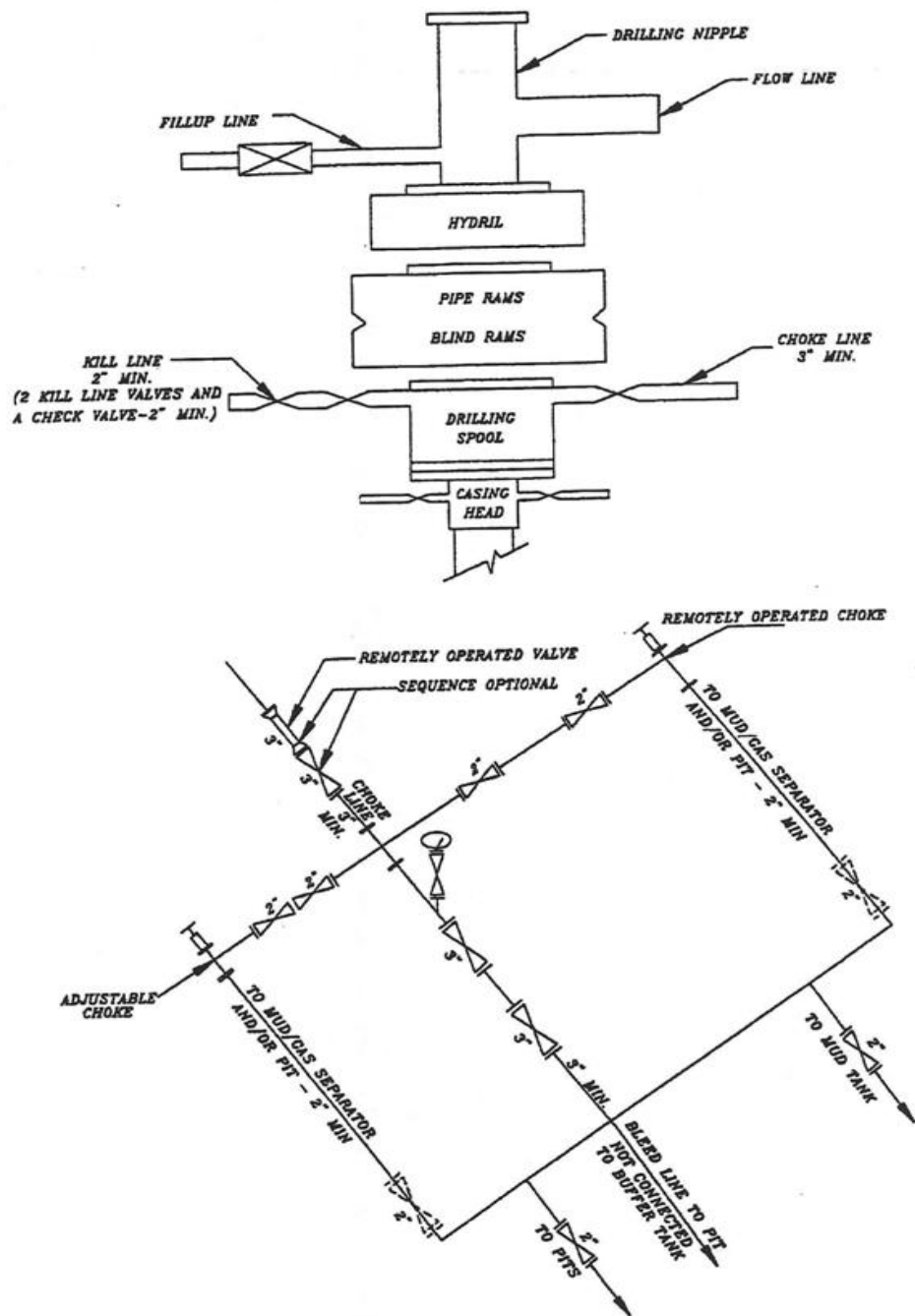
DATE:

DRILLING SUPERINTENDENT:

John Merkel / Lovel Young

DATE:

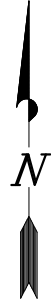
EXHIBIT A
NBU 1022-10A4BS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

WELL PAD INTERFERENCE PLAT

DIRECTIONAL PAD - NBU 231



SURFACE POSITION FOOTAGES:

NBU 1022-10C1BS
1065' FNL & 1523' FEL

NBU 1022-10B2AS
1066' FNL & 1503' FEL

NBU 1022-10B4BS
1066' FNL & 1483' FEL

NBU 1022-10A4BS
1067' FNL & 1463' FEL

NBU 231 (Existing Well Head)
1064' FNL & 1543' FEL

BASIS OF BEARINGS IS THE EAST LINE
OF THE NE 1/4 OF SECTION 10, T10S,
R22E, S.L.B.&M. WHICH IS TAKEN
FROM GLOBAL POSITIONING SATELLITE
OBSERVATIONS TO BEAR N00°08'03"W.

BOTTOM HOLE FOOTAGES

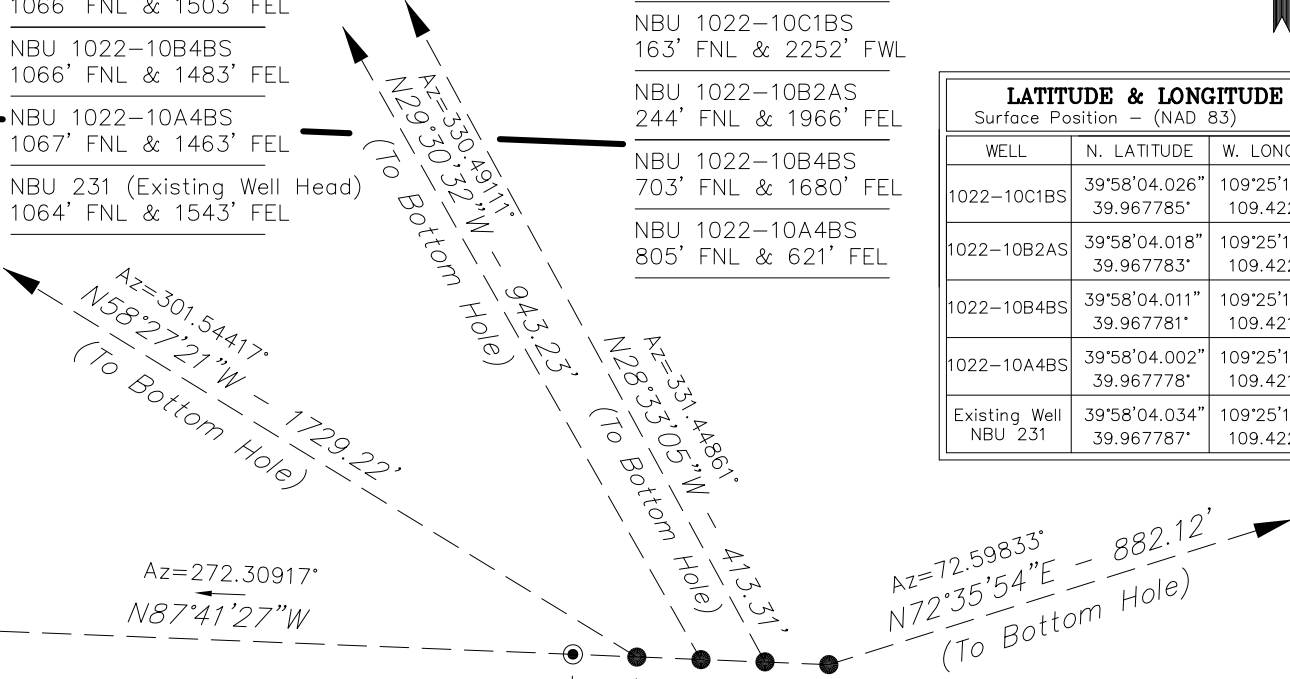
NBU 1022-10C1BS
163' FNL & 2252' FWL

NBU 1022-10B2AS
244' FNL & 1966' FEL

NBU 1022-10B4BS
703' FNL & 1680' FEL

NBU 1022-10A4BS
805' FNL & 621' FEL

LATITUDE & LONGITUDE Surface Position - (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
1022-10C1BS	39°58'04.026" 39.967785°	109°25'19.503" 109.422084°
1022-10B2AS	39°58'04.018" 39.967783°	109°25'19.246" 109.422013°
1022-10B4BS	39°58'04.011" 39.967781°	109°25'18.989" 109.421941°
1022-10A4BS	39°58'04.002" 39.967778°	109°25'18.733" 109.421870°
Existing Well NBU 231	39°58'04.034" 39.967787°	109°25'19.759" 109.422155°

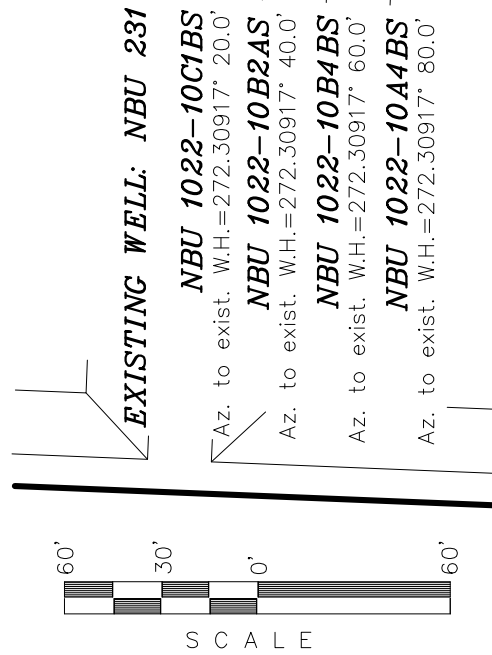


RELATIVE COORDINATES From Surface Position to Bottom Hole		
WELL	NORTH	EAST
1022-10C1BS	905'	-1474'
1022-10B2AS	821'	-465'
1022-10B4BS	363'	-198'
1022-10A4BS	264'	842'

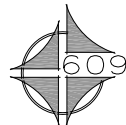
LATITUDE & LONGITUDE Surface Position - (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
1022-10C1BS	39°58'04.150" 39.967819°	109°25'17.047" 109.421402°
1022-10B2AS	39°58'04.142" 39.967817°	109°25'16.790" 109.421331°
1022-10B4BS	39°58'04.135" 39.967815°	109°25'16.533" 109.421259°
1022-10A4BS	39°58'04.126" 39.967813°	109°25'16.277" 109.421188°
Existing Well NBU 231	39°58'04.158" 39.967822°	109°25'17.304" 109.421473°

LATITUDE & LONGITUDE Bottom Hole - (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
1022-10C1BS	39°58'12.970" 39.970270°	109°25'38.421" 109.427339°
1022-10B2AS	39°58'12.130" 39.970036°	109°25'25.207" 109.423669°
1022-10B4BS	39°58'07.599" 39.968777°	109°25'21.523" 109.422645°
1022-10A4BS	39°58'06.605" 39.968501°	109°25'07.923" 109.418867°

LATITUDE & LONGITUDE Bottom Hole - (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
1022-10C1BS	39°58'13.094" 39.970304°	109°25'35.964" 109.426657°
1022-10B2AS	39°58'12.254" 39.970071°	109°25'22.751" 109.422986°
1022-10B4BS	39°58'07.723" 39.968812°	109°25'19.067" 109.421963°
1022-10A4BS	39°58'06.728" 39.968536°	109°25'05.467" 109.418185°



Kerr-McGee
Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202



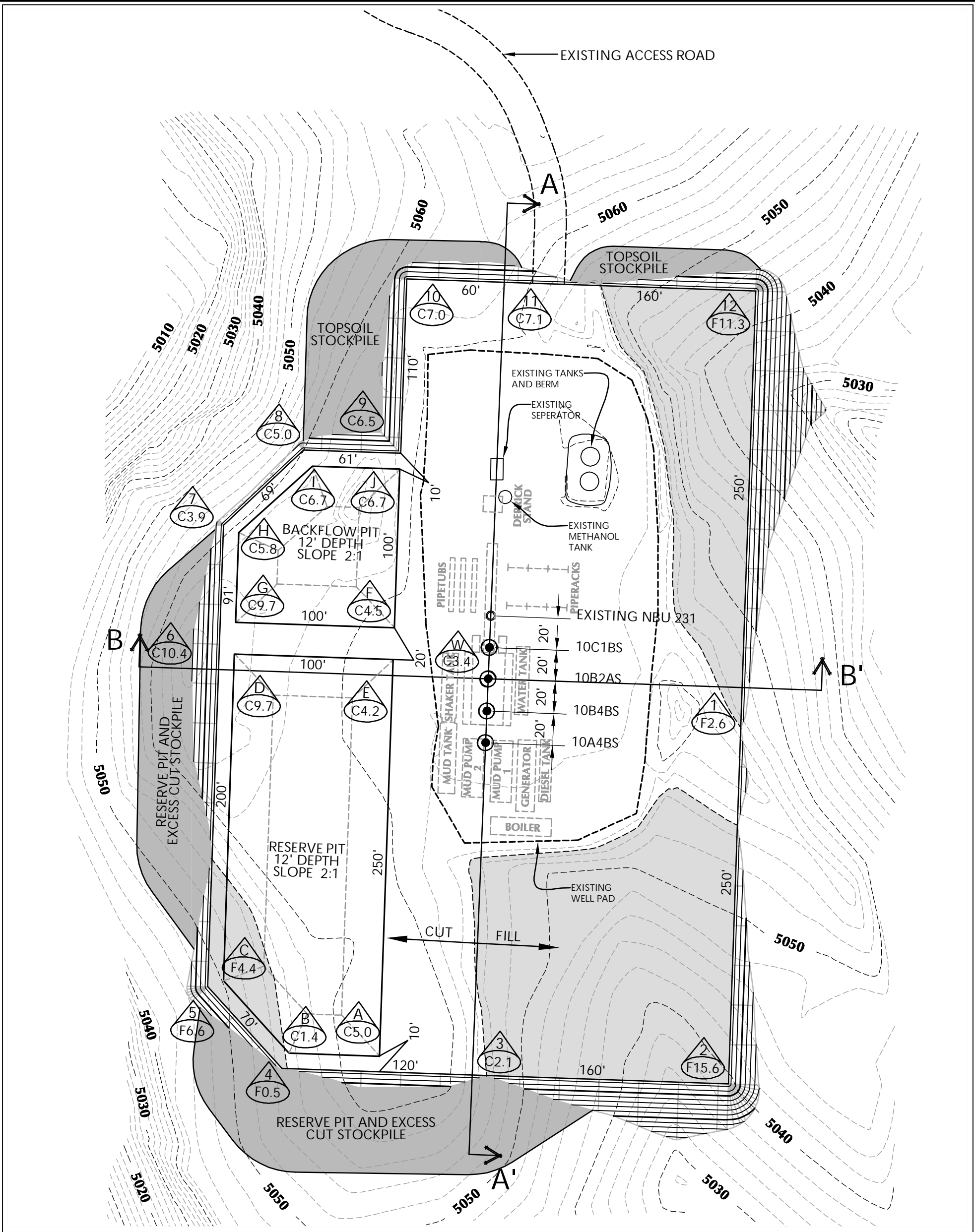
CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

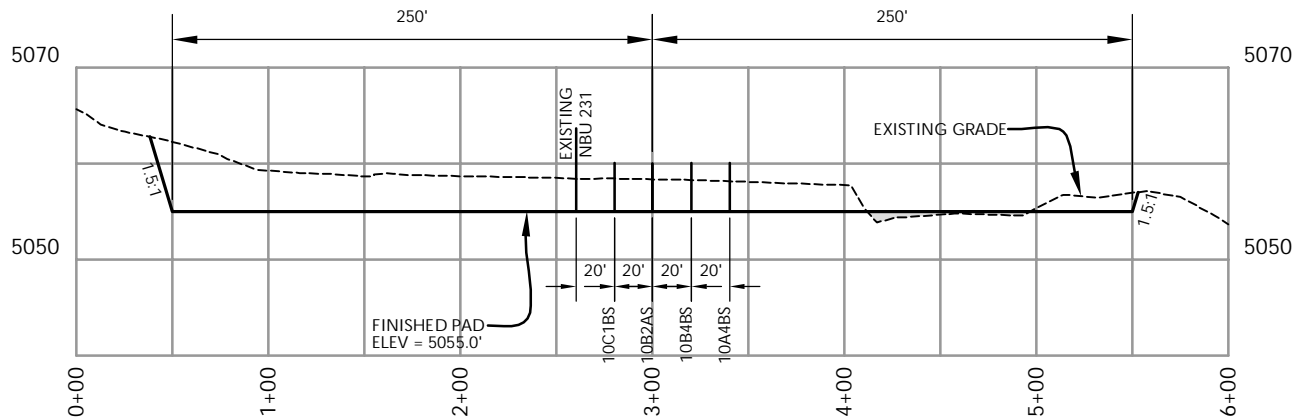
DATE SURVEYED: 09-15-08	SURVEYED BY: M.S.B.
DATE DRAWN: 10-06-08	DRAWN BY: E.M.S.
	REVISED: 01-22-09

Timberline (435) 789-1365
Engineering & Land Surveying, Inc.
209 NORTH 300 WEST VERNAL, UTAH 84078

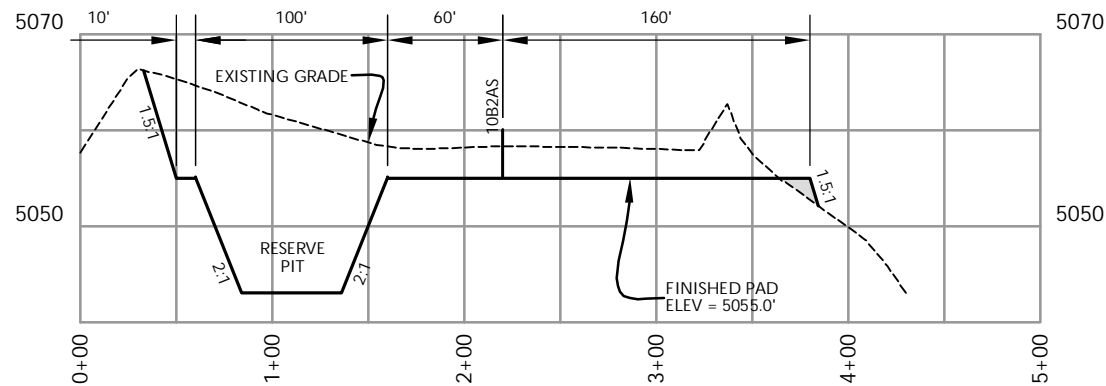
SHEET
5
OF 13

NBU 1022-10C1BS, NBU 1022-10B2AS,
NBU 1022-10B4BS & NBU 1022-10A4BS
LOCATED IN SECTION 10, T10S, R22E,
S.L.B.&M. UTAH COUNTY, UTAH.





CROSS SECTION A-A'



CROSS SECTION B-B'

NOTE: CROSS SECTION B-B' DEPICTS
MAXIMUM RESERVE PIT DEPTH.

**KERR-MCGEE OIL & GAS
ONSHORE L.P.**

1099 18th Street - Denver, Colorado 80202

WELL PAD - CROSS SECTIONS
NBU 1022-10C1BS, NBU 1022-10B2AS,
NBU 1022-10B4BS, NBU 1022-10A4BS
LOCATED IN SECTION 10, T.10S., R.22E.
S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

Scale: 1"=100'

Date: 2/11/09

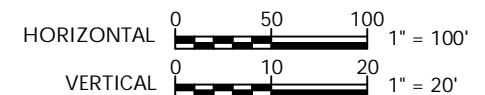
SHEET NO:

REVISED:

BY
DATE

7

7 OF 13



Timberline (435) 789-1365
Engineering & Land Surveying, Inc.
38 WEST 100 NORTH VERNAL, UTAH 84078

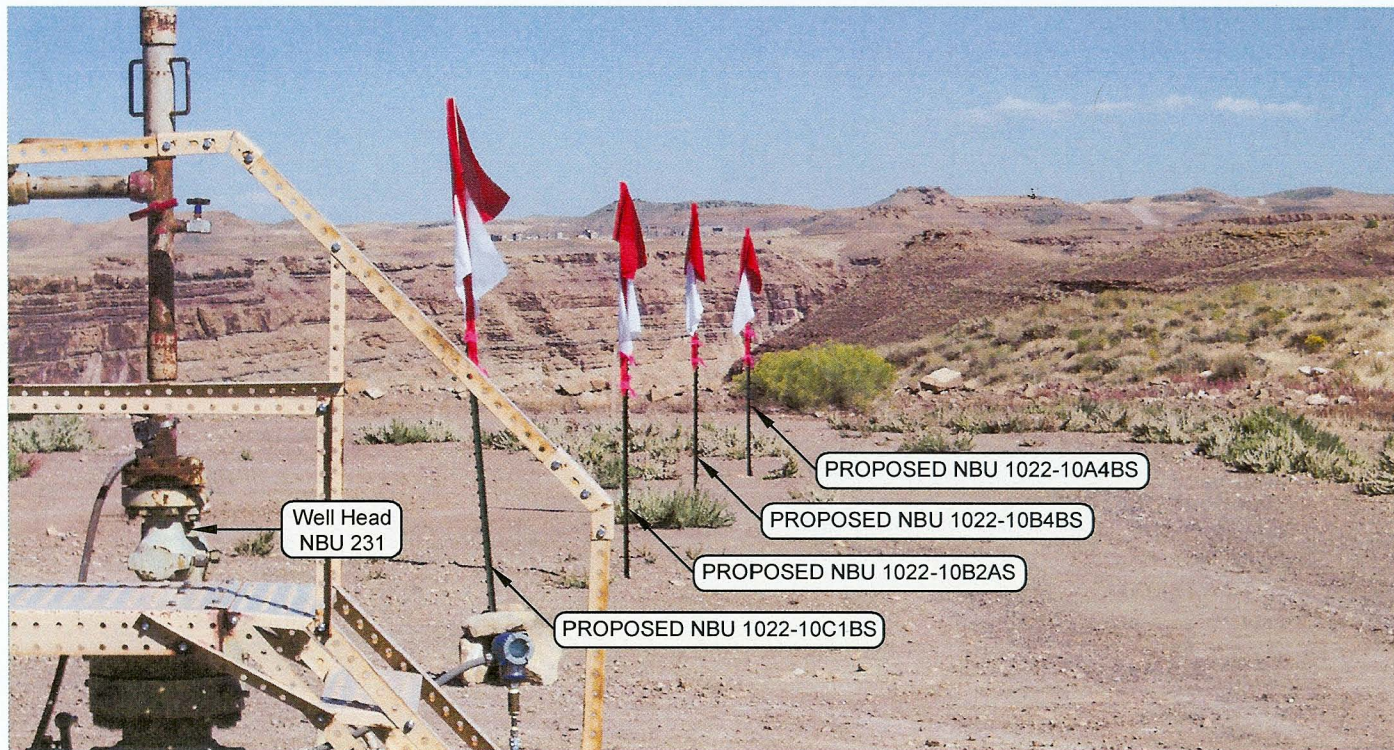


PHOTO VIEW: FROM EXISTING WELL HEAD TO LOCATION STAKES

CAMERA ANGLE: EASTERLY

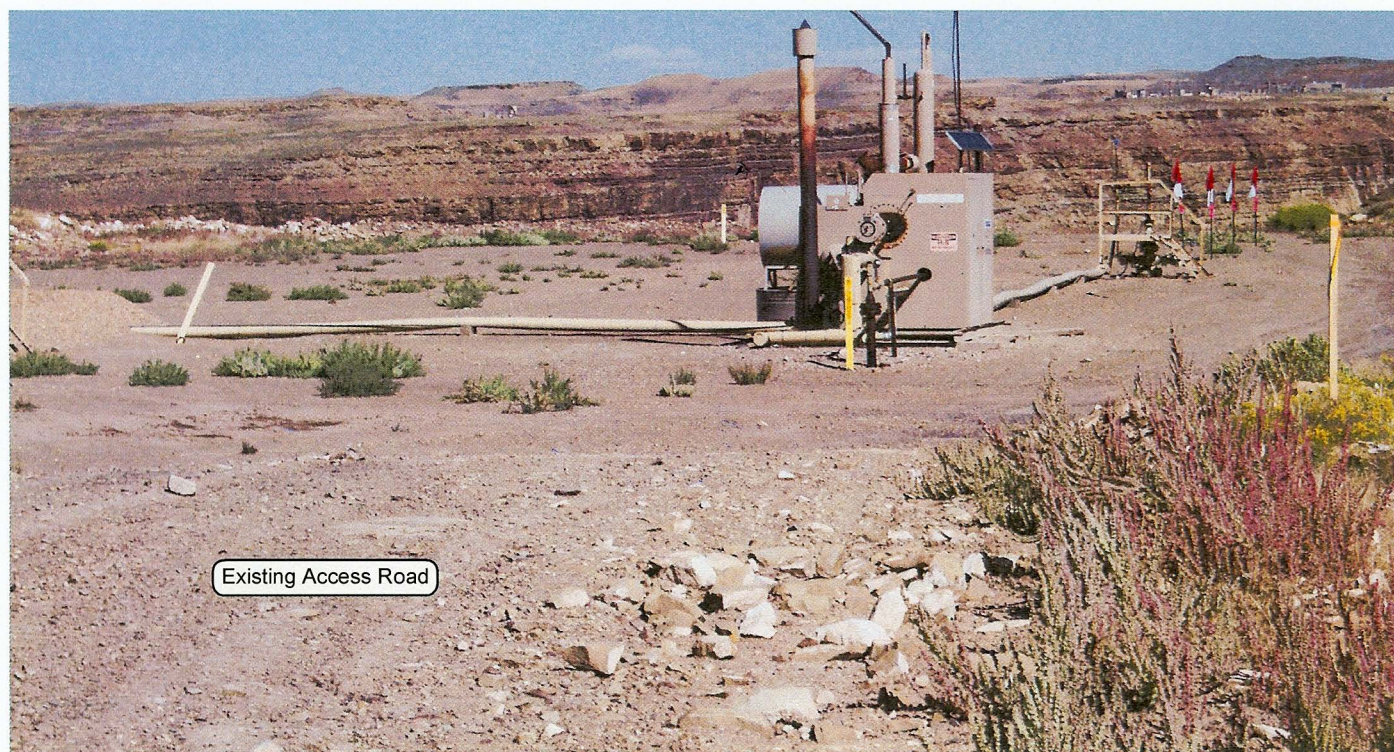


PHOTO VIEW: FROM EXISTING ROAD

CAMERA ANGLE: EASTERLY

Kerr-McGee
Oil & Gas Onshore, LP
 1099 18th Street — Denver, Colorado 80202



CONSULTING, LLC
 371 Coffeen Avenue
 Sheridan WY 82801
 Phone 307-674-0609
 Fax 307-674-0182

NBU 1022-10C1BS, NBU 1022-10B2AS,
 NBU 1022-10B4BS & NBU 1022-10A4BS
 LOCATED IN SECTION 10, T10S, R22E,
 S.L.B.&M. UINTAH COUNTY, UTAH.

LOCATION PHOTOS

TAKEN BY: M.S.B.

DRAWN BY: E.M.S.

DATE TAKEN: 09-15-08

DATE DRAWN: 10-06-08

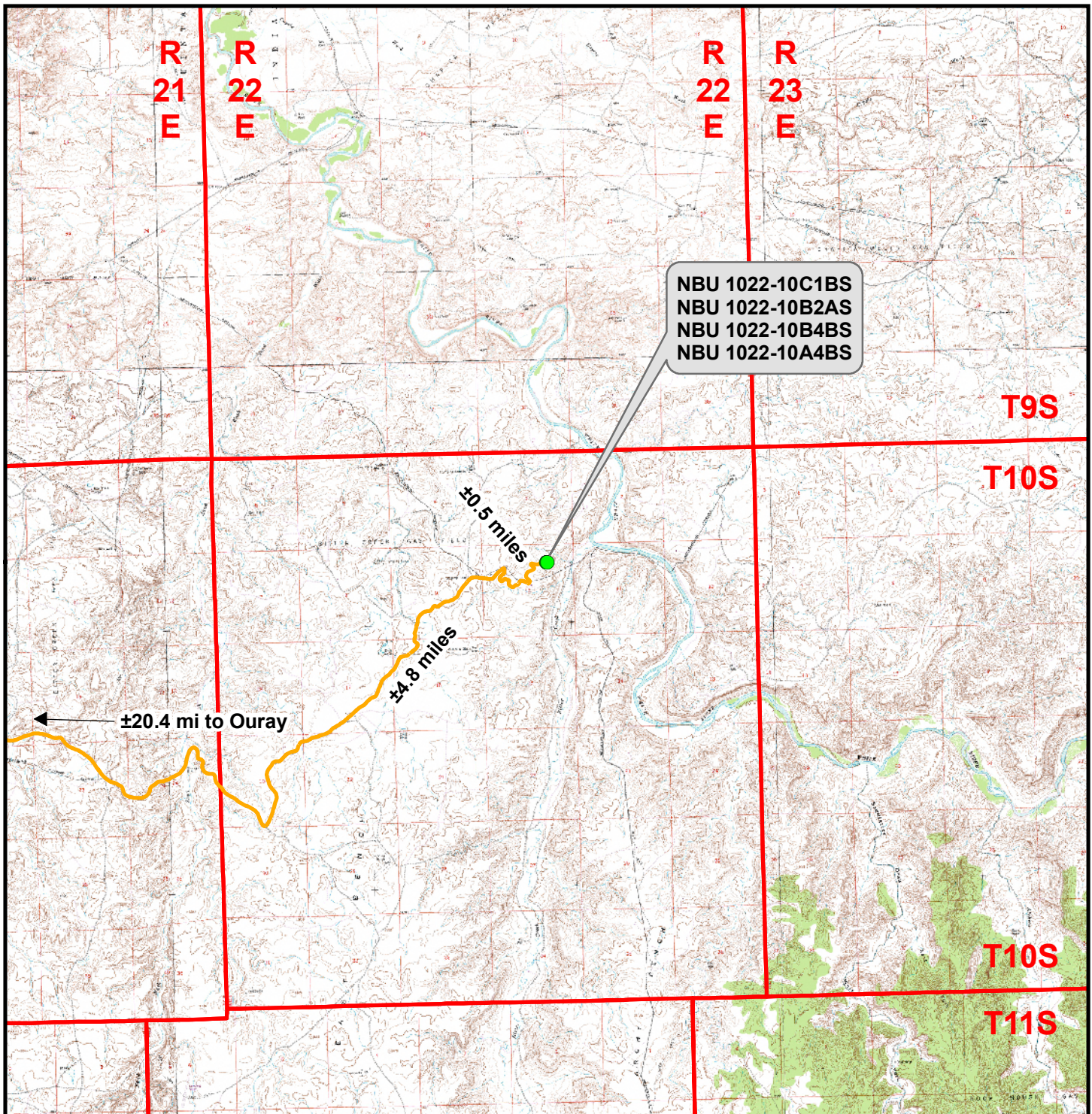
REVISED: 01-22-09

Timberline

Engineering & Land Surveying, Inc.
 209 NORTH 300 WEST VERNAL, UTAH 84078

(435) 789-1365

SHEET
8
OF 13



Legend

- Proposed Well Location
- Access Route - Proposed

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

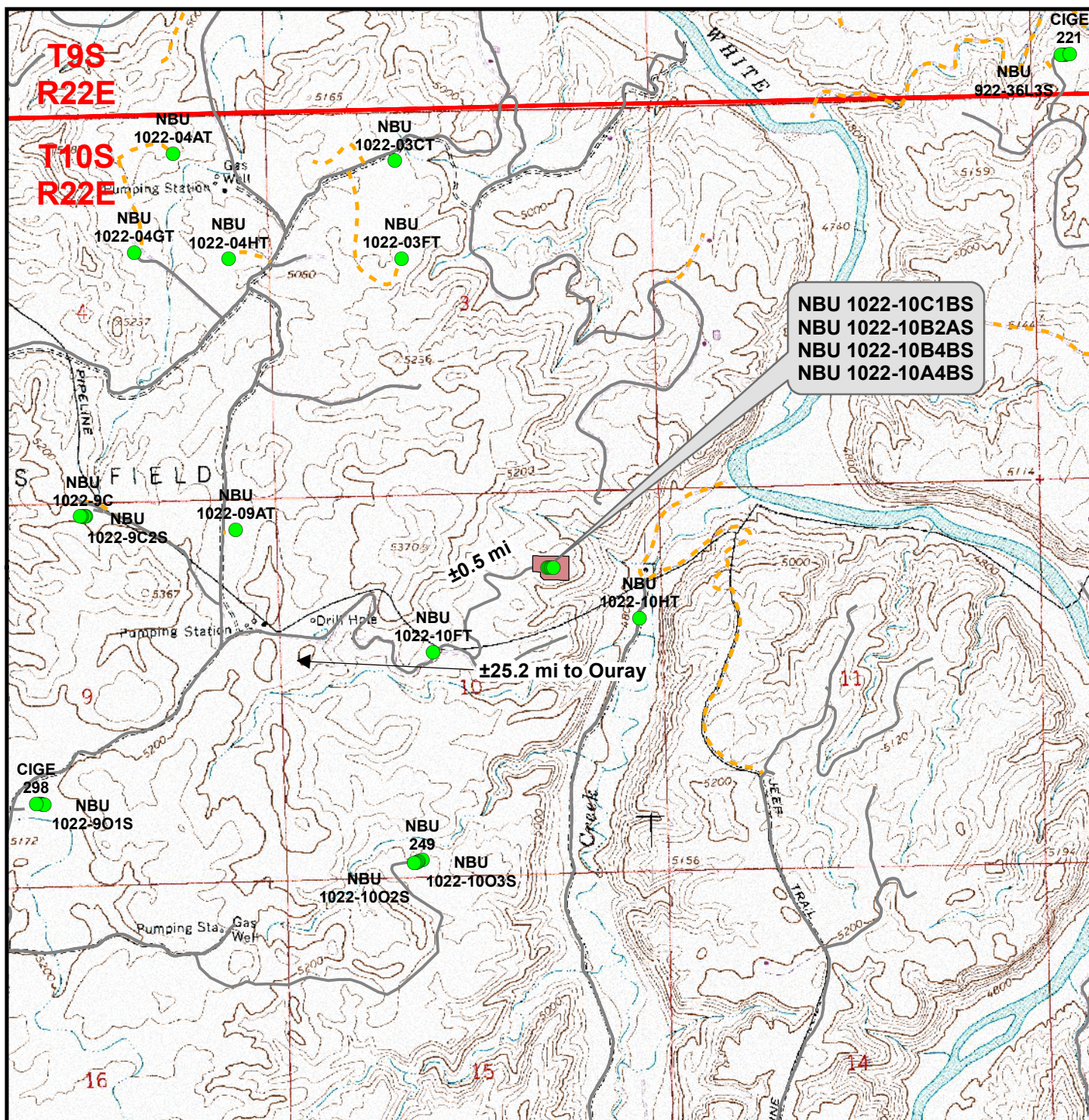
**NBU 1022-10C1BS, NBU 1022-10B2AS,
NBU 1022-10B4BS & NBU 1022-10A4BS**
Topo A
Located In Section 10, T10S, R22E
S.L.B.&M., Uintah County, Utah



Scale: 1:100,000	NAD83 USP Central
Drawn: JELO	Date: 10 Feb 2009
Revised:	Date:

Sheet No:

9 9 of 13



Legend

- Well - Proposed
- Well Pad
- Road - Proposed
- Road - Existing

Total Proposed Road Length: ±0ft

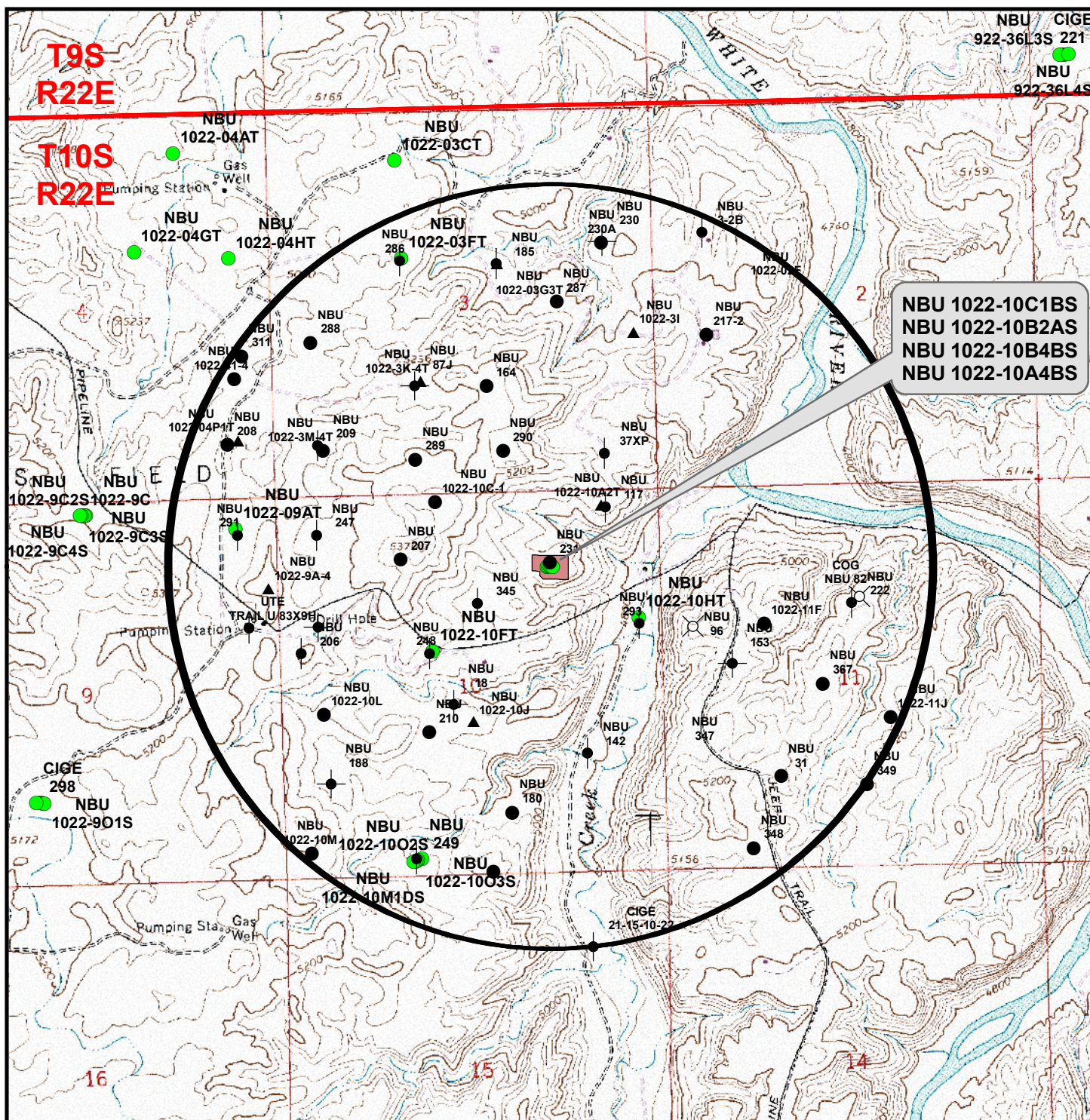
Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

**NBU 1022-10C1BS, NBU 1022-10B2AS,
NBU 1022-10B4BS & NBU 1022-10A4BS**
Topo B
Located In Section 10, T10S, R22E
S.L.B.&M., Uintah County, Utah



Scale: 1" = 2000ft
NAD83 USP Central
Drawn: JELO
Revised: Date: 10 Feb 2009

Sheet No:
10 10 of 13



Legend

- | | | | | |
|--|---|---|--|--|
| ● Well - Proposed | Well - 1 Mile Radius | ● Producing | ● Location Abandoned | ● Shut-In |
| Well Pad | ▲ Approved permit (APD); not yet spudded | ○ Spudded (Drilling commenced: Not yet complete) | ● Temporarily-Abandoned | ● Plugged and Abandoned |

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

**NBU 1022-10C1BS, NBU 1022-10B2AS,
NBU 1022-10B4BS & NBU 1022-10A4BS**
Topo C
Located In Section 10, T10S, R22E
S.L.B.&M., Uintah County, Utah

609
CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182



Scale: 1" = 2000ft	NAD83 USP Central	Sheet No:
Drawn: JELO	Date: 10 Feb 2009	11 11 of 13
Revised:	Date:	

Sheet No:
12 12 of 13

Kerr-McGee Oil & Gas Onshore, LP
NBU 1022-10C1BS, NBU 1022-10B2AS, NBU 1022-10B4BS & NBU 1022-10A4BS
Section 10, T10S, R22E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 11.2 MILES TO THE INTERSECTION OF THE GLEN BENCH ROAD (COUNTY B ROAD 3260). EXIT LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY DIRECTION ALONG THE GLEN BENCH ROAD APPROXIMATELY 5.2 MILES TO THE INTERSECTION OF THE BITTER CREEK ROAD (COUNTY B ROAD 4120). EXIT RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION ALONG THE BITTER CREEK ROAD APPROXIMATELY 4.0 MILES TO A CLASS D COUNTY ROAD RUNNING NORTHEASTERLY. EXIT LEFT AND PROCEED IN A NORTHEASTERLY DIRECTION ALONG THE CLASS D COUNTY ROAD APPROXIMATELY 4.8 MILES TO THE NBU 248 WELL SITE. PROCEED NORTHEASTERLY ALONG SERVICE ROAD APPROXIMATELY 0.5 MILES TO THE EXISTING WELL PAD.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 56.4 MILES IN A SOUTHERLY DIRECTION.

NBU 1022-10A4BS

Pad: NBU 1022-10B (NBU 231)

Surface: 1,067' FNL, 1,463' FEL (NW/4NE/4)

BHL: 805' FNL 621' FEL (NE/4NE/4)

Sec. 10 T10S R22E

Uintah, Utah

Mineral Lease: UO 01197A

ONSHORE ORDER NO. 1

MULTI-POINT SURFACE USE & OPERATIONS PLAN

Directional Drilling:

In accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

1. Existing Roads:

Refer to Topo Map A for directions to the location.

Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

All existing roads will be maintained and kept in good repair during all drilling and completion operations associated with this well.

2. Planned Access Roads:

Approximately ± 0.0 mi. ($\pm 0'$) of new access road is proposed. Please refer to the attached Topo Map B.

The upgraded and new portions of the access road will be crowned and ditched with a running surface of 18 feet and a maximum disturbed width of 30 feet. Appropriate water control will be installed to control erosion.

Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site.

The access road was centerline flagged during time of staking.

Surfacing material may be necessary, depending upon weather conditions.

Surface disturbance and vehicular traffic will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.

3. Location of Existing Wells Within a 1-Mile Radius:

Please refer to Topo Map C.

4. Location of Existing & Proposed Facilities:

The following guidelines will apply if the well is productive.

All production facilities will be located on the disturbed portion of the well pad and at a minimum of 25 feet from the toe of the back slope or the top of the fill slope.

A dike will be constructed completely around those production facilities which contain fluids (i.e., production tanks, produced water tanks, and/or heater/treater). These dikes will be constructed of compacted subsoil, be impervious, hold 100% of the capacity of the largest tank, and be independent of the back cut.

All permanent (on-site six months or longer) above the ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the five state Rocky Mountain Inter-Agency Committee.

All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The required color is Shadow Gray, a non-reflective earthtone.

Any necessary pits will be properly fenced to protect livestock and prevent wildlife entry.

5. Location and Type of Water Supply:

Water for drilling purposes will be obtained from Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim #43-8496, Application #53617.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

6. Source of Construction Materials:

Surface and subsoil materials in the immediate area will be utilized.

Any gravel will be obtained from a commercial source.

7. Methods of Handling Waste Materials:

Drill cuttings will be contained and buried in the reserve pit.

Drilling fluids, including salts and chemicals, will be contained in the reserve pit. Upon termination of drilling and completion operations, the liquid contents of the reserve pit will be removed and disposed of at an approved waste disposal facility within 120 days after drilling is terminated.

The reserve pit will be constructed on the location and will not be located within natural drainage, where a flood hazard exists or surface runoff will destroy or damage the pit walls. The reserve pit will be constructed so that it will not leak, break, or allow discharge of liquids.

A plastic reinforced liner and felt will be used; it will be a minimum of 20 mil thick, with sufficient bedding used to cover any rocks. The liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash or scrap that could puncture the liner will be disposed of in the pit. Any spills of oil, gas, salt water, or other noxious fluids will be immediately cleaned up and removed to an approved disposal site.

A chemical porta-toilet will be furnished with the drilling rig.

Garbage, trash, and other waste materials will be collected in a portable, self-contained, fully enclosed trash cage during operations. No trash will be burned on location.

All debris and other waste material not contained in the trash cage will be cleaned up and removed from the location immediately after removal of the drilling rig.

Any open pits will be fenced during the operations. The fencing will be maintained until such time as the pits are backfilled.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

Any produced water from the proposed well will be contained in a water tank and will then be hauled By truck to one of the pre-approved disposal sites: RNI in Sec. 5 T9S R22E, NBU #159 in Sec. 35 T9S R21E, Ace Oilfield in Sec. 2 T6S R20E, MC&MC in Sec. 12 T6S R19E, Pipeline Facility in Sec. 36 T9S R20E, Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E, Bonanza Evaporation Pond in Sec. 2 T10S R23E.

8. Ancillary Facilities:

None are anticipated.

9. Well Site Layout: (See Location Layout Diagram)

The attached Location Layout Diagram describes drill pad cross-sections, cuts and fills, and locations of the mud tanks, reserve pit, flare pit, pipe racks, trailer parking, spoil dirt stockpile(s), and surface material stockpile(s).

Please see the attached diagram to describe rig orientation, parking areas, and access roads.

The reserve pit will be lined, and when the reserve pit is closed, the pit liner will be buried below plow depth.

All pits will be fenced according to the following minimum standards:

39 inch net wire will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.

The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.

Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.

Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

The reserve pit fencing will be on three sides during drilling operations, and on the fourth side when the rig moves off location. Pits will be fenced and maintained until cleanup.

Location size may change prior to the drilling of the well due to current rig availability. If the proposed location is not large enough to accommodate the drilling rig the location will be re-surveyed and a Form 9 shall be submitted.

10. Plans for Reclamation of the Surface:

Producing Location:

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, materials, trash, and debris not required for production.

Immediately upon well completion, any hydrocarbons in the pit shall be removed in accordance with 43 CFR 3162.7-1.

A plastic, nylon reinforced liner will be used, it shall be torn and perforated before backfilling of the reserve pit.

Before any dirt work associated with location restoration takes place, the reserve pit shall be as dry as possible. All debris in it will be removed. Other waste and spoil materials will be disposed of immediately upon completion of operations.

The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 90 days from the date of well completion, weather permitting.

To prevent surface water(s) from standing (ponding) on the reclaimed reserve pit area, final reclamation of the reserve pit will consist of "mounding" the surface three feet above surrounding ground surface to allow the reclaimed pit area to drain effectively.

Upon completion of backfilling, leveling, and recontouring, the stockpiled topsoil will be spread evenly over the reclaimed area(s).

Dry Hole/Abandoned Location:

Abandoned well sites, roads, and other disturbed areas will be restored as near as practical to their original condition. Where applicable, these conditions include the re-establishment of irrigation systems, the re-establishment of appropriate soil conditions, and re-establishment of vegetation as specified.

All disturbed surfaces will be recontoured to the approximate natural contours, with reclamation of the well pad and access road to be performed as soon as practical after final abandonment. Reseeding operations will be performed after completion of other reclamation operations.

11. Surface/Mineral Ownership:

SITLA
675 East 500 South, Suite 500
Salt Lake City, UT 84102

12. Other Information:

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, the approved Plan of Operations, and any applicable Notice of Lessees. The Operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

The Operator will control noxious weeds along Rights-Of-Way for roads, pipelines, well sites, or other applicable facilities.

A Class III archaeological survey report and paleontological survey report is attached.

13. Lessee's or Operators' Representative & Certification:

Kathy Schneebeck Dulnoan
Staff Regulatory Analyst
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6226

Tommy Thompson
General Manager, Drilling
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6724


Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by State Surety Bond 22013542.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.


Kathy Schneebeck Dulnoan

April 2, 2009
Date



Kerr-McGee Oil & Gas Onshore LP
1999 Broadway, Suite 3700
Denver, CO 80205

March 27, 2009

Mrs. Diana Mason
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11
NBU 1022-10A4BS
T10S R22E
Section 10: NENE
NWNE 1067' FNL, 1463' FEL (surface)
NENE 805' FNL, 621' FEL (bottom hole)
Uintah County, Utah

Dear Mrs. Mason:

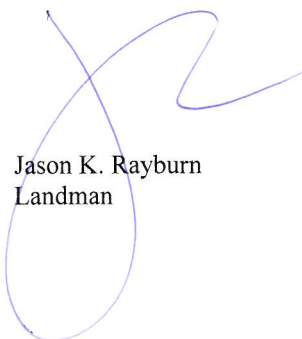
Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

- Kerr-McGee's NBU 1022-10A4BS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore

Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink, appearing to read 'Jason K. Rayburn', is written over a large, loopy blue circular stamp or seal.

Jason K. Rayburn
Landman

'APIWellNo:43047503610000'

CLASS I REVIEW OF KERR-MCGEE OIL AND GAS
ONSHORE LP'S 55 PROPOSED WELL LOCATIONS
IN TOWNSHIP 10S, RANGE 22E,
SECTIONS 4, 7, 8, 9, 10, 18 AND 20,
UINTAH COUNTY, UTAH

CLASS I REVIEW OF KERR-MCGEE OIL AND GAS
ONSHORE LP'S 55 PROPOSED WELL LOCATIONS
IN TOWNSHIP 10S, RANGE 22E,
SECTIONS 4, 7, 8, 9, 10, 18 AND 20,
UINTAH COUNTY, UTAH

By:

Patricia Stavish

Prepared For:
Bureau of Land Management
Vernal Field Office
and
State of Utah
School & Institutional Trust Lands Administration

Prepared Under Contract With:

Kerr-McGee Oil and Gas Onshore LP
1368 South 1200 East
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.
P.O. Box 219
Moab, Utah 84532

MOAC Report No. 08-321

February 20, 2009

United States Department of Interior (FLPMA)
Permit No. 08-UT-60122

Public Lands Policy Coordination Office
Archaeological Survey Permit No. 117

INTRODUCTION

A Class I literature review was completed Montgomery Archaeological Consultants, Inc. (MOAC) in February 2009 of Kerr-McGee Onshore's 55 proposed well locations with associated access and pipeline corridors in Township 10S, Range 22E, Sections 4, 5, 7, 8, 9, 10, 17, 18, 19, and 20. The project area is situated in the Bitter Creek Gas Field, west of the White River, south of the town of Vernal, Uintah County, Utah. The well pads are designated NBU 1022-4E Directional Pad, NBU 1022-04E2S, NBU 1022-04E3S, NBU 1022-05H4S, NBU 1022-05I2S, NBU 470 (1022-7O) Directional Pad, NBU 1022-07O4AS, NBU 1022-07O4DS, NBU 1022-07N1S, NBU 1022-07N4S, NBU 343 (1022-8B) Directional Pad, NBU 1022-08C1AS, NBU 1022-08C1CS, NBU 1022-08B1DS, NBU 1022-08B4AS, NBU 1022-8L Directional Pad, NBU 1022-08L3CS, NBU 1022-08M3DS, NBU 1022-08N1DS, NBU 1022-08N2DS, NBU 1022-9C Directional Pad, NBU 1022-09C2DS, NBU 1022-09C3CS, NBU 1022-09C4DS, NBU 1022-09B4CS, NBU 1022-9N-2T Directional Pad, NBU 1022-09L4AS, NBU 1022-09M1AS, NBU 1022-09M1DS, NBU 1022-09O1BS, NBU 231 (1022-10B) Directional Pad, NBU 1022-10C1BS, NBU 1022-10B2AS, NBU 1022-10B4BS, NBU 1022-10A4BS, NBU 249 (1022-10N) Directional Pad, NBU 1022-10O2CS, NBU 1022-10O3BS, NBU 1022-10M1AS, NBU 1022-10M1DS, NBU 1022-18P Directional Pad, NBU 1022-18I4BS, NBU 1022-18O1AS, NBU 1022-18P1DS, NBU 1022-48P4AS, NBU 1022-20D Directional Pad, NBU 1022-19A1CS, NBU 1022-19A3BS, NBU 1022-19H1AS, NBU 1022-19H2BS, NBU 1022-20M Directional Pad, NBU 1022-19P1AS, NBU 1022-20M1DS, NBU 1022-20M4CS, and NBU 1022-20M4DS. This document was implemented at the request of Ms. Raleen White, Kerr-McGee Onshore LP, Denver, Colorado. Land status is public land administered by the Bureau of Land Management (BLM) Vernal Field Office and state lands administered by the State of Utah School & Institutional Trust Lands Administration (SITLA).

The purpose of this Class I review is to identify, classify, and evaluate the previously conducted cultural resource inventories and archaeological sites in the project area in order to comply with Section 106 of 36 CFR 800, the National Historic Preservation Act of 1966 (as amended). Also, the inventory was implemented to attain compliance with a number of federal and state mandates, including the National Environmental Policy Act of 1969, the Archaeological and Historic Conservation Act of 1972, the Archaeological Resources Protection Act of 1979, the American Indian Religious Freedom Act of 1978, and the Utah State Antiquities Act of 1973 (amended 1990).

The project area, in which Kerr-McGee Onshore's 55 proposed well locations occur, was previously inventoried by MOAC in 2007 for the Class III inventory of Township 10 South, Range 22 East (Montgomery 2008). A file search was completed by consulting MOAC's Class I existing data review of 459 square miles (293,805 acres) covering the Greater NBU study area between Bonanza and Ouray in Uintah County, northeastern Utah (Patterson et al. 2008). Kerr-McGee Oil & Gas Onshore LP proposes to explore and develop oil and natural gas resources throughout the area. Record searches were performed for this Class I project by Marty Thomas at the Utah State Historic Preservation Office (SHPO) on various dates between June 14, 2006 and January 27, 2007. The results of this Class I data review and Class III inventory indicated that three previous archaeological sites (42Un664, 42Un6472, and 42Un6499) occur in the current project area.

DESCRIPTION OF THE PROJECT AREA

The project area is situated in the Bitter Creek Gas Field, west of the White River in the Uinta Basin. The legal description is Township 10 South, Range 22 East, Sections 4, 5, 7, 8, 9, 10, 17, 18, 19, and 20 (Table 1; Figures 1 and 2).

Table 1. Kerr-McGee Onshore's 55 Proposed Well Locations.

Well Designation	Legal Description	Access and Pipeline Corridor	Cultural Resources
NBU 1022-4E Directional Pad NBU 1022-04E2S NBU 1022-04E3S NBU 1022-05H4S NBU 1022-05I2S	SW/NW of Sec. 4, T10S, R22E	Access: 1251 ft Pipeline: 2456 ft	None
NBU 470 (1022-7O) Directional Pad NBU 1022-07O4AS NBU 1022-07O4DS NBU 1022-07N1S NBU 1022-07N4S	SW/SE of Sec. 7, T10S, R22E	Pipeline: 7796 ft	None
NBU 343 (1022-8B) Directional Pad NBU 1022-08C1AS NBU 1022-08C1CS NBU 1022-08B1DS NBU 1022-08B4AS	NW/NE of Sec. 8, T10S, R22E	Pipeline: 719 ft	None
NBU 1022-8L Directional Pad NBU 1022-08L3CS NBU 1022-08M3DS NBU 1022-08N1DS NBU 1022-08N2DS	NW/SW of Sec. 8, T10S, R22E	Access: 560 ft Pipeline: 3848 ft	42Un6472
NBU 1022-9C Directional Pad NBU 1022-09C2DS NBU 1022-09C3CS NBU 1022-09C4DS NBU 1022-09B4CS	NE/NW of Sec. 9, T10S, R22E	Access: 570 ft Pipeline: 661 ft	None
NBU 1022-9N-2T Directional Pad NBU 1022-09L4AS NBU 1022-09M1AS NBU 1022-09M1DS NBU 1022-09O1BS	SE/SW of Sec. 9, T10S, R22E	Pipeline: 643 ft	None
NBU 231 (1022-10B) Directional Pad NBU 1022-10C1BS NBU 1022-10B2AS NBU 1022-10B4BS NBU 1022-10A4BS	NW/NE of Sec. 10, T10S, R22E	Pipeline: 2122 ft	None
NBU 249 (1022-10N) Directional Pad NBU 1022-10O2CS NBU 1022-10O3BS NBU 1022-10M1AS NBU 1022-10M1DS	SE/SW of Sec. 10, T10S, R22E	Pipeline: 6598 ft	42Un664

Well Designation	Legal Description	Access and Pipeline Corridor	Cultural Resources
NBU 1022-18P Directional Pad NBU 1022-18I4BS NBU 1022-18O1AS NBU 1022-18P1DS NBU 1022-18P4AS	SE/SE of Sec. 18, T10S, R22E	Pipeline: 1355 ft	42Un6499
NBU 1022-20D Directional Pad NBU 1022-19A1CS NBU 1022-19A3BS NBU 1022-19H1AS NBU 1022-19H2BS	NW/NW of Sec. 20, T10S, R22E	Pipeline: 942 ft	None
NBU 1022-20M Directional Pad NBU 1022-19P1AS NBU 1022-20M1DS NBU 1022-20M4CS NBU 1022-20M4DS	SW/SW of Sec. 20, T10S, R22E	Access: 266 ft Pipeline: 4861 ft	None

Environmental Setting

The study area lies within the Uinta Basin physiographic unit, a distinctly bowl-shaped geologic structure (Stokes 1986:231). The Uinta Basin ecosystem is within the Green River drainage, considered to be the northernmost extension of the Colorado Plateau. The geology is comprised of Tertiary age deposits, which include Paleocene age deposits and Eocene age fluvial and lacustrine sedimentary rocks. The Uinta Formation, which is predominate in the project area, occurs as eroded outcrops (formed by fluvial deposited, stream laid interbedded sandstone and mudstone), and is known for its prolific paleontological localities. Specifically, the inventory area is situated adjacent to the White River and Bitter Creek. Elevation averages approximately 5200 ft asl. The project occurs within the Upper Sonoran Desert Shrub Association which includes; sagebrush, shadscale, greasewood, mat saltbush, snakeweed, rabbitbrush, and prickly pear cactus. Modern disturbances include livestock grazing, roads, and oil/gas development.

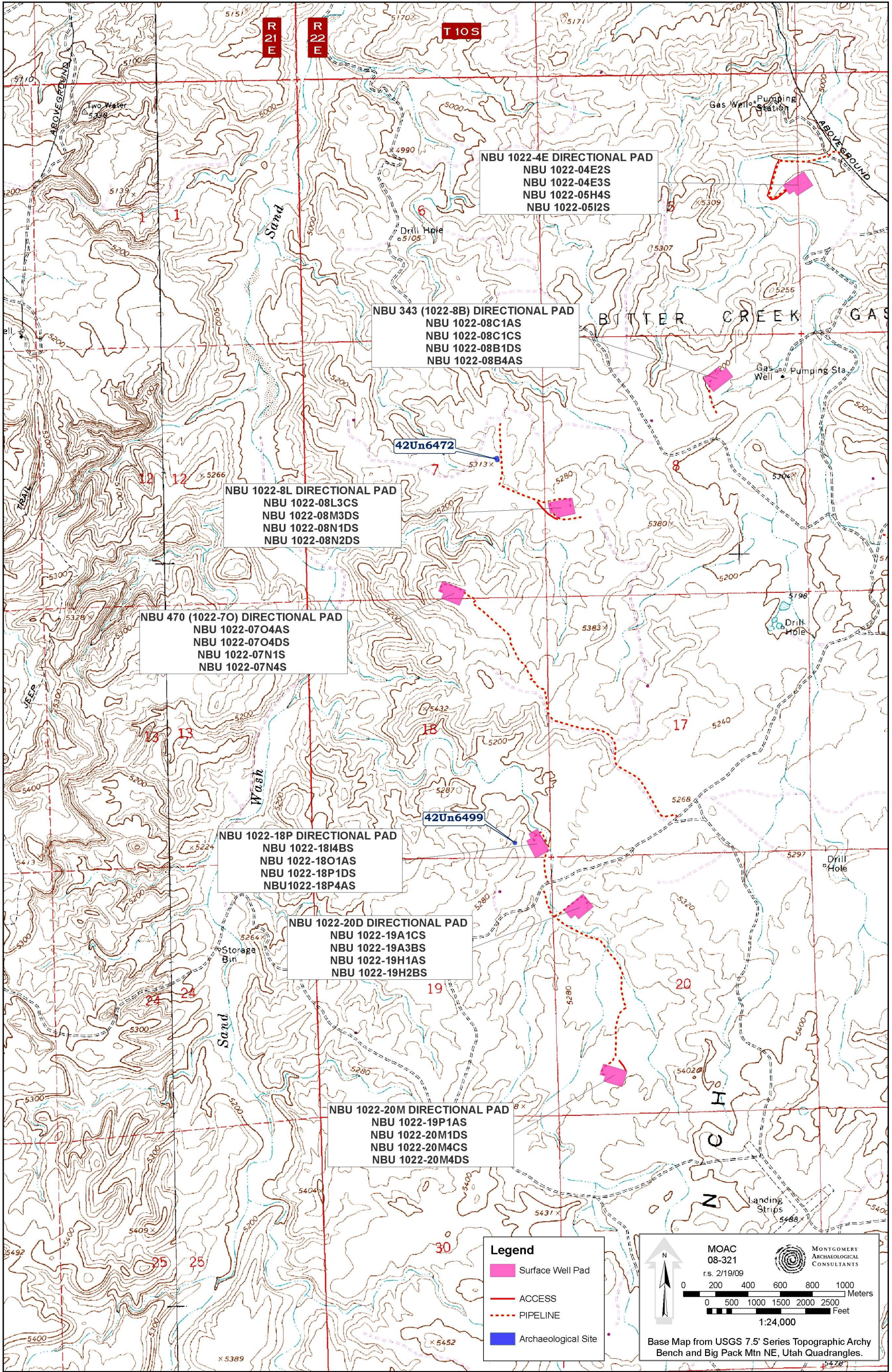


Figure 1. Kerr-McGee Oil & Gas Onshore LP's 55 Proposed Well Locations with Access and Pipeline Corridors, Uintah County, Utah.

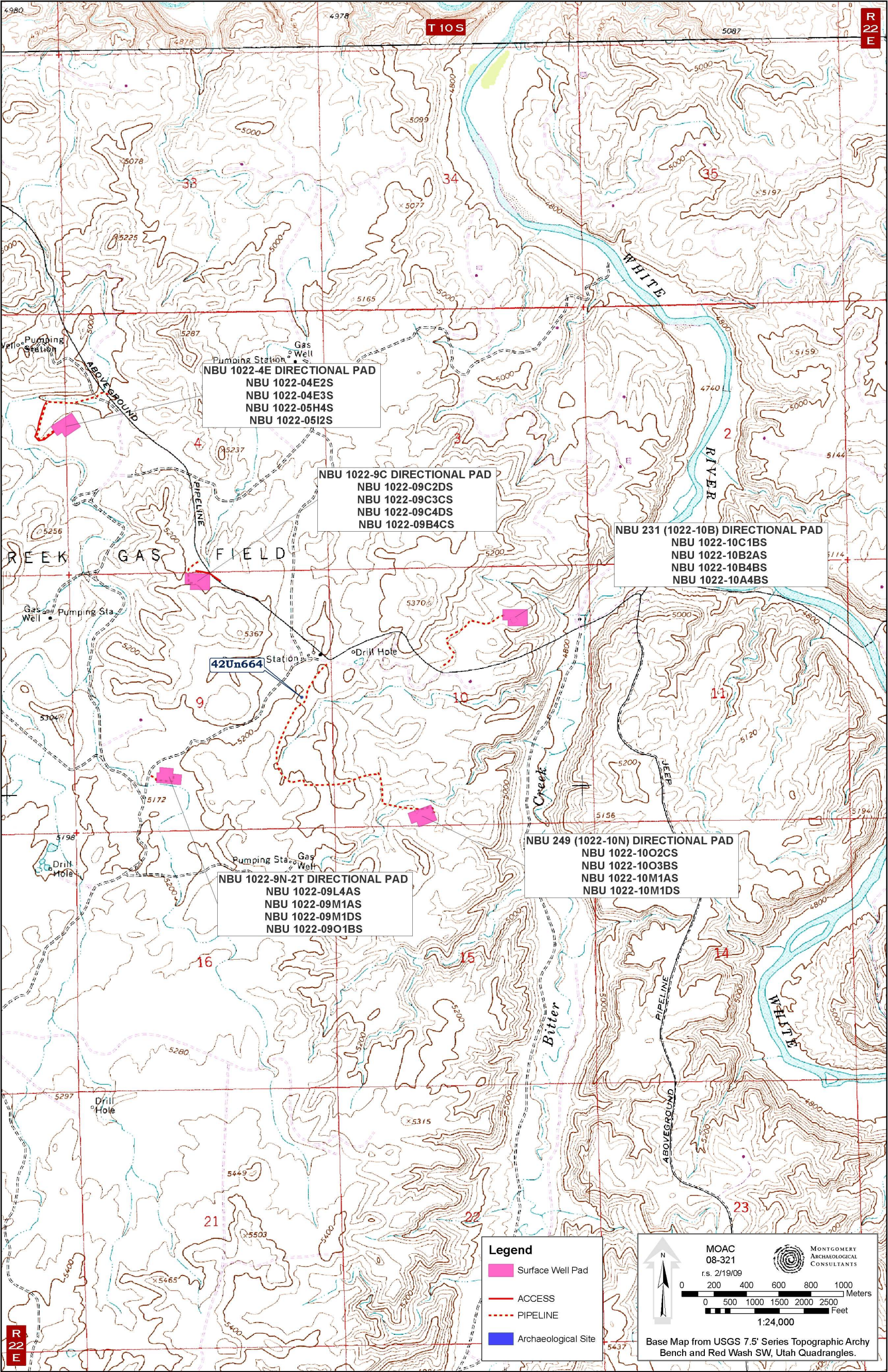


Figure 2. Kerr-McGee Oil & Gas Onshore LP's 55 Proposed Well Locations with Access and Pipeline Corridors, Uintah County, Utah.

CLASS I RESULTS AND RECOMMENDATIONS

The Class I literature review resulted in the location of three previously documented sites (42Un664, 42Un6472, and 42Un6499). Site 42Un664 is a prehistoric temporary camp with firecracked and oxidized rocks, slab metates, and lithic debitage. Site 42Un664 is recommended as eligible to the NRHP under Criterion D. Site 42Un6472 is a historic trash scatter that is recommended as not eligible to the NRHP. Site 42Un6499 was a prehistoric burial situated in a rockshelter, at which an emergency recovery of the human remains was conducted on November 7, 2007 by Keith R. Montgomery and Jody Patterson. Site 42Un6499 is recommended as eligible to the NRHP under Criterion D.

The Class I literature review of 55 proposed well locations with associated pipeline and access corridors in Township 10 South, Range 22 East, Sections 4, 5, 7, 8, 9, 10, 17, 18, 19, and 20 resulted in the location of three previously documented archaeological sites (42Un664, 42Un6472, and 42Un6499). Sites 42Un664 and 42Un6499 are recommended as eligible to the NRHP under Criterion D and site 42Un6472 is recommended as not eligible to the NRHP. Site 42Un664 will be avoided by the undertaking, as it is located 100 ft from the proposed pipeline. Site 42Un6499 is avoided by at least 300 ft, which should be sufficient as the human remains have been removed from the site. Based on the avoidance of the eligible sites, a determination of "no adverse impact" is proposed pursuant to Section 106, CFR 800.

REFERENCES CITED

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Patterson, J. J., J. Fritz, K. Lower-Eskelson, R. Stash and A. Thomas

2008 NBU Class I Existing Data Review for Kerr-McGee Oil & Gas Onshore LP, Uintah County, Utah. Montgomery Archaeological Consultants, Moab, Utah.

Stokes, W. L.

1986 *Geology of Utah*. Utah Museum of Natural History and Utah Geological and Mineral Survey, Salt Lake City.

IPC #09-28

Paleontological Reconnaissance Survey Report

Survey of Kerr McGee's Proposed Multi-Well Pads and Pipeline Upgrades for "NBU #922-29M2DS, M4DS & M3CS, #1022-9O1S, L4S, M1S & M4S, #1022-10C1BS, B2AS, B4BS & A4BS, #1022-18O1AS, I4BS, P1DS & P4AS, and #1022-19H1AS, H2BS, A3BS & A1CS" (Sec. 19, T 9 S, R 21 E), (Sec. 29 & 32, T 9 S, R 22 E), (Sec. 13, T 10 S, R 21 E), & (Sec. 9, 10, & 18-20, T 10 S, R 22 E)

Archy Bench & Red Wash SW
Topographic Quadrangles
Uintah County, Utah

March 25, 2009

Prepared by Stephen D. Sandau
Paleontologist for
Intermountain Paleo-Consulting
P. O. Box 1125
Vernal, Utah 84078

INTRODUCTION

At the request of Raleen White of Kerr McGee Onshore LP and authorized by the BLM Vernal Field Office and James Kirkland of the Office of the State Paleontologist, a paleontological reconnaissance survey of Kerr McGee's proposed multi-well pads and pipeline upgrades for "NBU #922-29M2DS, M4DS & M3CS, #1022-9O1S, L4S, M1S & M4S, #1022-10C1BS, B2AS, B4BS & A4BS, #1022-18O1AS, I4BS, P1DS & P4AS, and #1022-19H1AS, H2BS, A3BS & A1CS" (Sec. 19, T 9 S, R 21 E), (Sec. 29 & 32, T 9 S, R 22 E), (Sec. 13, T 10 S, R 21 E), & (Sec. 9, 10, & 18-20, T 10 S, R 22 E) was conducted by Stephen Sandau and Thomas Temme on March 20, 2009. The reconnaissance survey was conducted under the Utah BLM Paleontological Resources Use Permit #UT08-006C and Utah Paleontological Investigations Permit #07-356. This survey to locate, identify and evaluate paleontological resources was done to meet requirements of the National Environmental Policy Act of 1969 and other State and Federal laws and regulations that protect paleontological resources.

FEDERAL AND STATE REQUIREMENTS

As mandated by the Federal and State government, paleontologically sensitive geologic formations on State lands that are considered for exchange or may be impacted due to ground disturbance require paleontological evaluation. This requirement complies with:

- 1) The National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321.et. Seq., P.L. 91-190);
- 2) The Federal Land Policy and Management Act (FLPMA) of 1976 (90 Stat. 2743, 43 U.S.C. § 1701-1785, et. Seq., P.L. 94-579);
- 3) The National Historic Preservation Act. 16 U.S.C. § 470-1, P.L. 102-575 in conjunction with 42 U.S.C. § 5320; and
- 4) The Utah Geological Survey. S. C. A.: 63-73-1. (1-21) and U.C.A.: 53B-17-603

BLM, 2008: BLM IM 2009-011 Assessment and Mitigation of Potential Impacts to Paleontological Resources. USDI – BLM Washington Office directive, October 29, 2008 replaces the Condition Classification System from Handbook H-8270-1. The following section outlines the new Potential Fossil Yield Classification (PFYC) System. Geologic units are classified based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts, with a higher class number indicating a higher potential.

- **Class 1 – Very Low.** Geologic units (igneous, metamorphic, or Precambrian) not likely to contain recognizable fossil remains.
- **Class 2 – Low.** Sedimentary geologic units not likely to contain vertebrate fossils or scientifically significant non-vertebrate fossils. (Including modern eolian, fluvial, and colluvial deposits etc...)
- **Class 3 – Moderate or Unknown.** Fossiliferous sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence; or sedimentary units of unknown fossil potential.

- **Class 3a – Moderate Potential.** The potential for a project to be sited on or impact a significant fossil locality is low, but is somewhat higher for common fossils.
- **Class 3b – Unknown Potential.** Units exhibit geologic features and preservational conditions that suggest significant fossils could be present, but little information about the paleontological resources of the unit or the area is known.
- **Class 4 – High.** Geologic units containing a high occurrence of vertebrate fossils or scientifically significant invertebrate or plant fossils, but may vary in abundance and predictability.
 - **Class 4a** – Outcrop areas with high potential are extensive (greater than two acres) and paleontological resources may be susceptible to adverse impacts from surface disturbing actions.
 - **Class 4b** – Areas underlain by geologic units with high potential but have lowered risks of disturbance due to moderating circumstances such as a protective layer of soil or alluvial material; or outcrop areas are smaller than two contiguous acres.
- **Class 5 – Very High.** Highly fossiliferous geologic units that consistently and predictably produce vertebrate fossils or scientifically significant invertebrate or plant fossils.
 - **Class 5a** - Outcrop areas with very high potential are extensive (greater than two acres) and paleontological resources may be susceptible to adverse impacts from surface disturbing actions.
 - **Class 5b** - Areas underlain by geologic units with very high potential but have lowered risks of disturbance due to moderating circumstances such as a protective layer of soil or alluvial material; or outcrop areas are smaller than two contiguous acres.

It should be noted that many fossils, though common and unimpressive in and of themselves, can be important paleo-environmental, depositional, and chronostratigraphic indicators.

LOCATION

Kerr McGee's proposed multi-well pads, and pipeline upgrades for "NBU #922-29M2DS, M4DS & M3CS, #1022-9O1S, L4S, M1S & M4S, #1022-10C1BS, B2AS, B4BS & A4BS, #1022-18O1AS, I4BS, P1DS & P4AS, and #1022-19H1AS, H2BS, A3BS & A1CS" (Sec. 19, T 9 S, R 21 E), (Sec. 29 & 32, T 9 S, R 22 E), (Sec. 13, T 10 S, R 21 E), & (Sec. 9, 10, & 18-20, T 10 S, R 22 E) are on lands managed by the BLM and the State of Utah Trust Lands Administration (SITLA), in the Sand Wash area, 0.5-5 miles west of the White River on East Bench, and some 19-26 miles southeast of Ouray, UT. The project area can be found on the Arch Bench and Red Wash SW 7.5 minute U. S. Geological Survey Quadrangle Maps, Uintah County, Utah.

PREVIOUS WORK

The basins of western North America have long produced some of the richest fossil collections in the world. Early Cenozoic sediments are especially well represented throughout the western interior. Paleontologists started field work in Utah's Uinta Basin as early as 1870 (Betts, 1871; Marsh, 1871, 1875a, 1875b). The Uinta Basin is located in the northeastern corner of Utah and covers approximately 31,000 sq. km (12,000 sq. miles) ranging in elevation from 1,465 to 2,130 m (4,800 to 7,000 ft) (Marsell, 1964; Hamblin et al., 1987). Middle to late Eocene time marked a period of dramatic change in the climate, flora, (Stucky, 1992) and fauna (Black and Dawson, 1966) of North America.

GEOLOGICAL AND PALEONTOLOGICAL OVERVIEW

Early in the geologic history of Utah, some 1,000 to 600 Ma, an east-west trending basin developed creating accommodation for 25,000 feet of siliclastics. Uplift of that filled-basin during the early Cenozoic formed the Uinta Mountains (Rasmussen et al., 1999). With the rise of the Uinta Mountains the asymmetrical synclinal Uinta Basin is thought to have formed through the effects of down warping in connection with the uplift. Throughout the Paleozoic and Mesozoic deposition fluctuated between marine and non-marine environments laying down a thick succession of sediments in the area now occupied by the Uinta Basin. Portions of these beds crop out on the margins of the basin due to tectonic events during the late Mesozoic.

Early Tertiary Uinta Basin sediments were deposited in alternating lacustrine and fluvial environments. Large shallow lakes periodically covered most of the basin and surrounding areas during early to mid Eocene time (Abbott, 1957). These lacustrine sediments show up in the western part of the basin, dipping 2-3 degrees to the northeast and are lost in the subsurface on the east side. The increase of cross-bedded, coarse-grained sandstone and conglomerates preserved in paleo-channels indicates a transition to a fluvial environment toward the end of the epoch.

Four Eocene formations are recognized in the Uinta Basin: the Wasatch, Green River, Uinta and Duchesne River, respectively (Wood, 1941). The Uinta Formation is subdivided into two lithostratigraphic units namely: the Wagonhound Member (Wood, 1934), formerly known as Uinta A and B (Osborn, 1895, 1929) and the Myton Member previously regarded as the Uinta C.

Within the Uinta Basin in northeast Utah, the Uinta Formation in the western part of the basin is composed primarily of lacustrine sediments inter-fingering with over-bank deposits of silt and mudstone and westward flowing channel sands and fluvial clays, muds, and sands in the east (Bryant et al, 1990; Ryder et al, 1976). Stratigraphic work done by early geologists and paleontologists within the Uinta Formation focused on the definition of rock units and attempted to define a distinction between early and late Uintan faunas (Riggs, 1912; Peterson and Kay, 1931; Kay 1934). More recent work focused on magnetostratigraphy, radioscopic chronology and continental biostratigraphy (Flynn, 1986; Prothero, 1996). Well-known for its fossiliferous nature and distinctive mammalian fauna of mid-Eocene Age, the Uinta Formation is the type formation for the Uintan Land Mammal Age (Wood et al, 1941).

The Duchesne River Formation of the Uinta Basin in northeastern Utah is composed of a succession of fluvial and flood plain deposits composed of mud, silt and sandstone. The source area for these late Eocene deposits is from the Uinta Mountains indicated by paleocurrent data (Anderson and Picard, 1972). In Peterson's (1931c) paper, the name "Duchesne Formation" was applied to the formation and it was later changed to the "Duchesne River Formation" by Kay (1934). The formation is divided up into four members: the Brennan Basin, Dry Gulch Creek, LaPoint and Starr Flat (Anderson and Picard, 1972). Debates concerning the Duchesne River Formation, as to whether its age was late Eocene or early Oligocene, have surfaced throughout the literature of the last century (Wood et al., 1941; Scott 1945). Recent paleo-magnetostratigraphic work (Prothero, 1996) shows that the Duchesne River Formation is late Eocene in time.

FIELD METHODS

In order to determine if the proposed project area contained any paleontological resources, a reconnaissance survey was performed. An on-site observation of the proposed areas undergoing surficial disturbance is necessary because judgments made from topographic maps alone are often unreliable. Areas of low relief have potential to be erosional surfaces with the possibility of bearing fossil materials rather than surfaces covered by unconsolidated sediment or soils.

When found within the proposed construction areas, outcrops and erosional surfaces were checked to determine if fossils were present and to assess needs. Careful effort is made during surveys to identify and evaluate significant fossil materials or fossil horizons when they are found. Microvertebrates, although rare, are occasionally found in anthills or upon erosional surfaces and are of particular importance.

PROJECT AREA

The project area is situated in the Wagonhound Member (Uinta B) of the Uinta Formation. The following list provides a description of the individual wells and their associated pipelines and access roads.

NBU #922-29M2DS, M4DS & M3CS

The proposed pipeline upgrade begins in the NW/NW quarter-quarter section of Sec. 32, T 9 S, R 22 E, and heads north for about 2500 feet before joining the proposed multi-well pad located on the existing pad "NBU #922-29M" in the SW/SW quarter-quarter section of Sec. 29 (Figure 1). The project area is situated in hilly terrain of ridges, ravines and valleys cut by modern drainages. Ground cover consists of previously disturbed mudstones and siltstones, tan silty soil, and alluvium/colluvium consisting of locally derived and transported clasts of tan sandstone, green and purplish brown siltstone, and disaggregated mudstones and siltstones. Sediments in the project area support vegetation including arid steppe grasses and shrubs, cactus, and sagebrush. The stratigraphy of the project area is typical of the Wagonhound Member (Uinta B) and includes variegated beds of gray, green, and purplish brown mudstones and

siltstones inter-bedded with purplish brown, fine-grained, sub-lithic sandstone and tan, fine-grained, sub-quartzitic sandstone; cut by several paleo-channels of tan, medium to coarse-grained, cross-bedded, lithic sandstone. Stratigraphy outcrops as resistant beds exposed in colluvium covered hillsides and valleys throughout the project area.

Numerous isolated turtle shell fragments were observed in the colluvium along the proposed pipeline upgrade. Most fragments were moderately to well preserved, and moderately to highly weathered. At least one individual turtle, represented as a small fragmentary scatter, was observed in the colluvium in the middle portion of the proposed pipeline upgrade. A few ichnofossil burrows and burrow casts, presumably of *Planolites*, were observed in the purplish brown sandstones and in the colluvium throughout the project area.

NBU #1022-901S, L4S, M1S & M4S

The proposed pipeline upgrade and multi-well pad is located on the existing pad "CIGE #298" in the SE/SW quarter-quarter section of Sec. 9, T 10 S, R 22 E (Figure 1). The project area is situated in hilly terrain cut by modern drainages. Ground cover consists of previously disturbed mudstones and siltstones, tan silty soil, small mudflats, and alluvium/colluvium consisting of locally derived and transported clasts of green and tan sandstone, green, purplish brown, and tan siltstone, and disaggregated mudstones and siltstones. Sediments in the project area support vegetation including cheat grass, shrubs, cactus, and sagebrush. The stratigraphy of the project area is typical of the Wagonhound Member (Uinta B) and includes variegated beds of green, tan, and orangish tan mudstones and siltstones inter-bedded with purplish brown, fine-grained, sub-lithic sandstone and cut by several paleo-channels of greenish tan and greenish gray, medium to coarse-grained, cross-bedded, lithic sandstone. Stratigraphy outcrops as resistant beds exposed in colluvium covered hillsides capped by thick beds of channel sandstone throughout the project area.

Numerous isolated bone and turtle shell fragments were observed in the colluvium and *in situ* in medium to coarse-grained sandstones throughout the project area. Most fragments were moderately preserved and highly weathered. At least one individual turtle, represented as a small fragmentary scatter, was observed in colluvium in the northeastern portion of the proposed multi-well pad. Two individual concentrations of large mammal limb bone fragments were observed in the southern portion of the proposed multi-well pad, one sourcing from gray mudstone and one sourcing from orangish tan mudstone. Identifiable mammalian bone fragments include a sesamoid, humeral head, proximal tibia, distal tibia, distal calcaneum, and distal femur. A small concentration of mammal mandible fragments was observed in gray/green disaggregated mudstone, next to the southeastern corner of the existing pad. A few ichnofossil burrow casts, presumably of *Planolites*, were observed in colluvium throughout the project area. The area where the fossils were discovered is designated as the new vertebrate fossil locality "42Un2536V."

NBU #1022-10C1BS, B2AS, B4BS & A4BS

The proposed pipeline upgrade begins in the SE/NW quarter-quarter section of Sec. 10, T 10 S, R 22 E, and heads northeast for about 2500 feet before joining the proposed multi-well pad on the existing pad "NBU #231" located in the NW/NE and NE/NE quarter-quarter sections of Sec. 10 (Figure 1). The project area is situated in hilly terrain of ridges and ravines cut by modern

drainages, next to a deep river cut canyon of the White River. Ground cover consists of previously disturbed mudstones and siltstones, tan silty soil, and alluvium/colluvium consisting of locally derived and transported clasts of tan sandstone, green and purplish brown siltstone, and disaggregated mudstones and siltstones. Sediments in the project area support vegetation including arid steppe grasses and shrubs, cactus, and sagebrush. The stratigraphy of the project area is typical of the Wagonhound Member (Uinta B) and includes variegated beds of gray, green, purplish brown, and tan mudstones and siltstones inter-bedded with tan, green, and purplish brown fine-grained, sub-quartzitic sandstone cut by numerous large paleo-channels of tan, medium to coarse-grained, cross-bedded, sub-lithic sandstone. Stratigraphy outcrops as resistant beds exposed in colluvium covered hillsides throughout the project area. Three isolated, moderately to well preserved, and moderately to highly weathered turtle shell fragments were observed in the colluvium along the proposed pipeline upgrade. A few ichnofossil burrows and burrow casts, presumably of *Planolites*, were observed in the purplish brown sandstones and in the colluvium throughout the project area.

NBU #1022-18O1AS, I4BS, P1DS & P4AS

The proposed pipeline upgrade begins in the NE/NE quarter-quarter section of Sec. 19, T 10 S, R 22 E, and heads south-southeast for about 1100 feet before joining the proposed multi-well pad on the existing pad "NBU #1022-18D" located in the NW/NW quarter-quarter section of Sec. 18 (Figure 2). The project area is situated in hilly terrain cut by modern drainages and an ephemeral stream. Ground cover consists primarily of previously disturbed mudstones and siltstones, small amounts of tannish brown silty soil, and alluvium/colluvium consisting of locally derived and transported clasts of tan, medium-grained, sub-lithic sandstones; green and purplish brown siltstones; and disaggregated mudstones and siltstones. Sediments in the project area support vegetation including cheat grass, shrubs, cactus, and sagebrush. The stratigraphy of the project area is typical of the Wagonhound Member (Uinta B) and includes variegated beds of green, purplish brown, and tan mudstones and siltstones inter-bedded with green and purplish brown, fine-grained, sub-lithic sandstone. Stratigraphy outcrops as resistant beds exposed in colluvium covered hillsides throughout the project area.

A few isolated bone and turtle shell fragments were observed in the colluvium throughout the project area. Most fragments were moderately preserved and highly weathered. Abundant ichnofossil burrows and burrow casts, presumably of *Planolites*, were observed in the purplish brown siltstones and in the colluvium throughout the project area.

NBU #1022-19H1AS, H2BS, A3BS & A1CS

The proposed pipeline upgrade begins in the NE/NE quarter-quarter section of Sec. 19, T 10 S, R 22 E, and heads south-southeast for about 700 feet before joining the proposed multi-well pad on the existing pad "NBU #1022-20D" located in the NW/NW quarter-quarter section of Sec. 20 (Figure 2). The project area is situated in hilly terrain cut by modern drainages and an ephemeral stream. Ground cover consists primarily of previously disturbed mudstones and siltstones, small amounts of tan to orangish tan silty soil, and alluvium/colluvium consisting of locally derived and transported clasts of green and purplish brown, fine-grained, sub-lithic sandstones; purplish brown and tan siltstones, and disaggregated mudstones and siltstones. Sediments in the project area support vegetation including cheat grass, shrubs, cactus, and sagebrush. The stratigraphy of the project area is typical of the Wagonhound Member (Uinta B) and includes variegated beds of

green, purplish brown, and tan mudstones and siltstones inter-bedded with green and purplish brown, fine-grained, sub-lithic sandstone cut by paleo-channels of tan, medium to coarse-grained, cross-bedded, lithic sandstone. Stratigraphy outcrops as resistant beds exposed in colluvium covered hillsides throughout the project area.

Infrequent isolated bone (? mammal rib fragment) and turtle shell fragments were observed in the colluvium at the base of the surrounding hills. Most fragments were moderately to well preserved and highly weathered. Abundant ichnofossil burrows and burrow casts, presumably of *Planolites*, were observed in the purplish brown and green sandstones and in the colluvium throughout the project area.

SURVEY RESULTS

PROJECT	GEOLOGY	PALEONTOLOGY
<p>“NBU #922-29M2DS, M4DS & M3CS” (Sec. 29 & 32, T 9 S, R 22 E)</p>	<p>The project area is situated in hilly terrain of ridges, ravines and valleys cut by modern drainages. Ground cover consists of previously disturbed mudstones and siltstones, tan silty soil, and alluvium/colluvium consisting of locally derived and transported clasts of tan sandstone, green and purplish brown siltstone, and disaggregated mudstones and siltstones. Sediments in the project area support vegetation including arid steppe grasses and shrubs, cactus, and sagebrush. The stratigraphy of the project area is typical of the Wagonhound Member (Uinta B) and includes variegated beds of gray, green, and purplish brown mudstones and siltstones inter-bedded with purplish brown, fine-grained, sub-lithic sandstone and tan, fine-grained, sub-quartzic sandstone; cut by several paleo-channels of tan, medium to coarse-grained, cross-bedded, lithic sandstone. Stratigraphy outcrops as resistant beds exposed in colluvium covered hillsides and valleys throughout the project area.</p>	<p>Numerous isolated turtle shell fragments were observed in the colluvium along the proposed pipeline upgrade. Most fragments were moderately to well preserved and moderately to highly weathered. At least one individual turtle, represented as a small fragmentary scatter, was observed in the colluvium in the middle portion of the proposed pipeline upgrade. A few ichnofossil burrows and burrow casts, presumably of <i>Planolites</i>, were observed in the purplish brown sandstones and in the colluvium throughout the project area.</p> <p>Class 3a</p>

<p>“NBU #1022-901S, L4S, M1S & M4S” (Sec. 9, T 10 S, R 22 E)</p>	<p>The project area is situated in hilly terrain cut by modern drainages. Ground cover consists of previously disturbed mudstones and siltstones, tan silty soil, small mudflats, and alluvium/colluvium consisting of locally derived and transported clasts of green and tan sandstone, green, purplish brown, and tan siltstone, and disaggregated mudstones and siltstones. Sediments in the project area support vegetation including cheat grass, shrubs, cactus, and sagebrush. The stratigraphy of the project area is typical of the Wagonhound Member (Uinta B) and includes variegated beds of green, tan, and orangish tan mudstones and siltstones inter-bedded with purplish brown, fine-grained, sub-lithic sandstone and cut by several paleo-channels of greenish tan and greenish gray, medium to coarse-grained, cross-bedded, lithic sandstone. Stratigraphy outcrops as resistant beds exposed in colluvium covered hillsides capped by thick beds of channel sandstone throughout the project area.</p>	<p>Numerous isolated bone and turtle shell fragments were observed in the colluvium and <i>in situ</i> in medium to coarse-grained sandstones throughout the project area. Most fragments were moderately preserved and highly weathered. At least one individual turtle, represented as a small fragmentary scatter, was observed in colluvium in the northeastern portion of the proposed multi-well pad. Two individual concentrations of large mammal limb bone fragments were observed in the southern portion of the proposed multi-well pad, one sourcing from gray mudstone and one sourcing from orangish tan mudstone. Identifiable mammalian bone fragments include a sesamoid, humeral head, proximal tibia, distal tibia, distal calcaneum, and distal femur. A small concentration of mammal mandible fragments was observed in gray/green disaggregated mudstone, next to the southeastern corner of the existing pad. A few ichnofossil burrow casts, presumably of <i>Planolites</i>, were observed in colluvium throughout the project area. The area where the fossils were discovered is designated as the new vertebrate fossil locality “42Un2536V.” Class 5a</p>
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<p>“NBU #1022-10C1BS, B2AS, B4BS & A4BS” (Sec. 10, T 10 S, R 22 E)</p>	<p>The project area is situated in hilly terrain of ridges and ravines cut by modern drainages, next to a deep river cut canyon of the White River. Ground cover consists of previously disturbed mudstones and siltstones, tan silty soil, and alluvium/colluvium consisting of locally derived and transported clasts of tan sandstone, green and purplish brown siltstone, and disaggregated mudstones and siltstones. Sediments in the project area support vegetation including arid steppe grasses and shrubs, cactus, and sagebrush. The stratigraphy of the project area is typical of the Wagonhound Member (Uinta B) and includes variegated beds of gray, green, purplish brown, and tan mudstones and siltstones inter-bedded with tan, green, and purplish brown fine-grained, sub-quartzic sandstone cut by numerous large paleo-channels of tan, medium to coarse-grained, cross-bedded, sub-lithic sandstone. Stratigraphy outcrops as resistant beds exposed in colluvium covered hillsides throughout the project area.</p>	<p>Three isolated, moderately to well preserved, and moderately to highly weathered turtle shell fragments were observed in the colluvium along the proposed pipeline upgrade. A few ichnofossil burrows and burrow casts, presumably of <i>Planolites</i>, were observed in the purplish brown sandstones and in the colluvium throughout the project area. Class 3b</p>
<p>“NBU #1022-18O1AS, I4BS, P1DS & P4AS” (Sec. 18 & 19, T 10 S, R22 E)</p>	<p>The project area is situated in hilly terrain cut by modern drainages and an ephemeral stream. Ground cover consists primarily of previously disturbed mudstones and siltstones, small amounts of tannish brown silty soil, and alluvium/colluvium consisting of locally derived and transported clasts of tan, medium-grained, sub-lithic sandstones; green and purplish brown siltstones; and disaggregated mudstones and siltstones. Sediments in the project area support vegetation including cheat grass, shrubs, cactus, and sagebrush. The stratigraphy of the project area is typical of the Wagonhound Member (Uinta B) and includes variegated beds of green, purplish brown, and tan mudstones and siltstones inter-bedded with green and purplish brown, fine-grained, sub-lithic sandstone. Stratigraphy outcrops as resistant beds exposed in colluvium covered hillsides throughout the project area.</p>	<p>A few isolated bone and turtle shell fragments were observed in the colluvium throughout the project area. Most fragments were moderately preserved and highly weathered. Abundant ichnofossil burrows and burrow casts, presumably of <i>Planolites</i>, were observed in the purplish brown siltstones and in the colluvium throughout the project area. Class 3a</p>

<p>“NBU #1022-19H1AS, H2BS, A3BS & A1CS” (Sec. 19 & 20, T 10 S, R22 E)</p>	<p>The project area is situated in hilly terrain cut by modern drainages and an ephemeral stream. Ground cover consists primarily of previously disturbed mudstones and siltstones, small amounts of tan to orangish tan silty soil, and alluvium/colluvium consisting of locally derived and transported clasts of green and purplish brown, fine-grained, sub-lithic sandstones; purplish brown and tan siltstones, and disaggregated mudstones and siltstones. Sediments in the project area support vegetation including cheat grass, shrubs, cactus, and sagebrush. The stratigraphy of the project area is typical of the Wagonhound Member (Uinta B) and includes variegated beds of green, purplish brown, and tan mudstones and siltstones interbedded with green and purplish brown, fine-grained, sub-lithic sandstone cut by paleo-channels of tan, medium to coarse-grained, cross-bedded, lithic sandstone. Stratigraphy outcrops as resistant beds exposed in colluvium covered hillsides throughout the project area.</p>	<p>Infrequent isolated bone (? mammal rib fragment) and turtle shell fragments were observed in the colluvium at the base of the surrounding hills. Most fragments were moderately to well preserved and highly weathered. Abundant ichnofossil burrows and burrow casts, presumably of <i>Planolites</i>, were observed in the purplish brown and green sandstones and in the colluvium throughout the project area. Class 3a</p>
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RECOMMENDATIONS

A reconnaissance survey was conducted for Kerr McGee's proposed multi-well pads, and pipeline upgrades for "NBU #922-29M2DS, M4DS & M3CS, #1022-9O1S, L4S, M1S & M4S, #1022-10C1BS, B2AS, B4BS & A4BS, #1022-18O1AS, I4BS, P1DS & P4AS, and #1022-19H1AS, H2BS, A3BS & A1CS" (Sec. 19, T 9 S, R 21 E), (Sec. 29 & 32, T 9 S, R 22 E), (Sec. 13, T 10 S, R 21 E), & (Sec. 9, 10, & 18-20, T 10 S, R 22 E). The well pads and the associated pipeline upgrades covered in this report showed some signs of vertebrate fossils, therefore, we advise the following recommendations.

Due to a number of vertebrate fossils found in and around the proposed location for "NBU #1022-9O1S, L4S, M1S & M4S" we recommend that a permitted paleontologist be present to monitor the construction process of the access road, pipeline and well pad.

Furthermore, we recommend that no other paleontological restrictions should be placed on the development of the remainder of the projects included in this report.

Nevertheless, if any vertebrate fossil(s) are found during construction within the project area, Operator (Lease Holder) will report all occurrences of paleontological resources discovered to a geologist with the Vernal Field Office of the BLM and the Office of the State Paleontologist. The operator is responsible for informing all persons in the areas who are associated with this project of the requirements for protecting paleontological resources. Paleontological resources found on the public lands are recognized by the BLM and State as constituting a fragile and nonrenewable scientific record of the history of life on earth, and so represent an important and critical component of America's natural heritage. These resources are afforded protection under 43 CFR 3802 and 3809, and penalties possible for the collection of vertebrate fossils are under 43 CFR 8365.1-5.

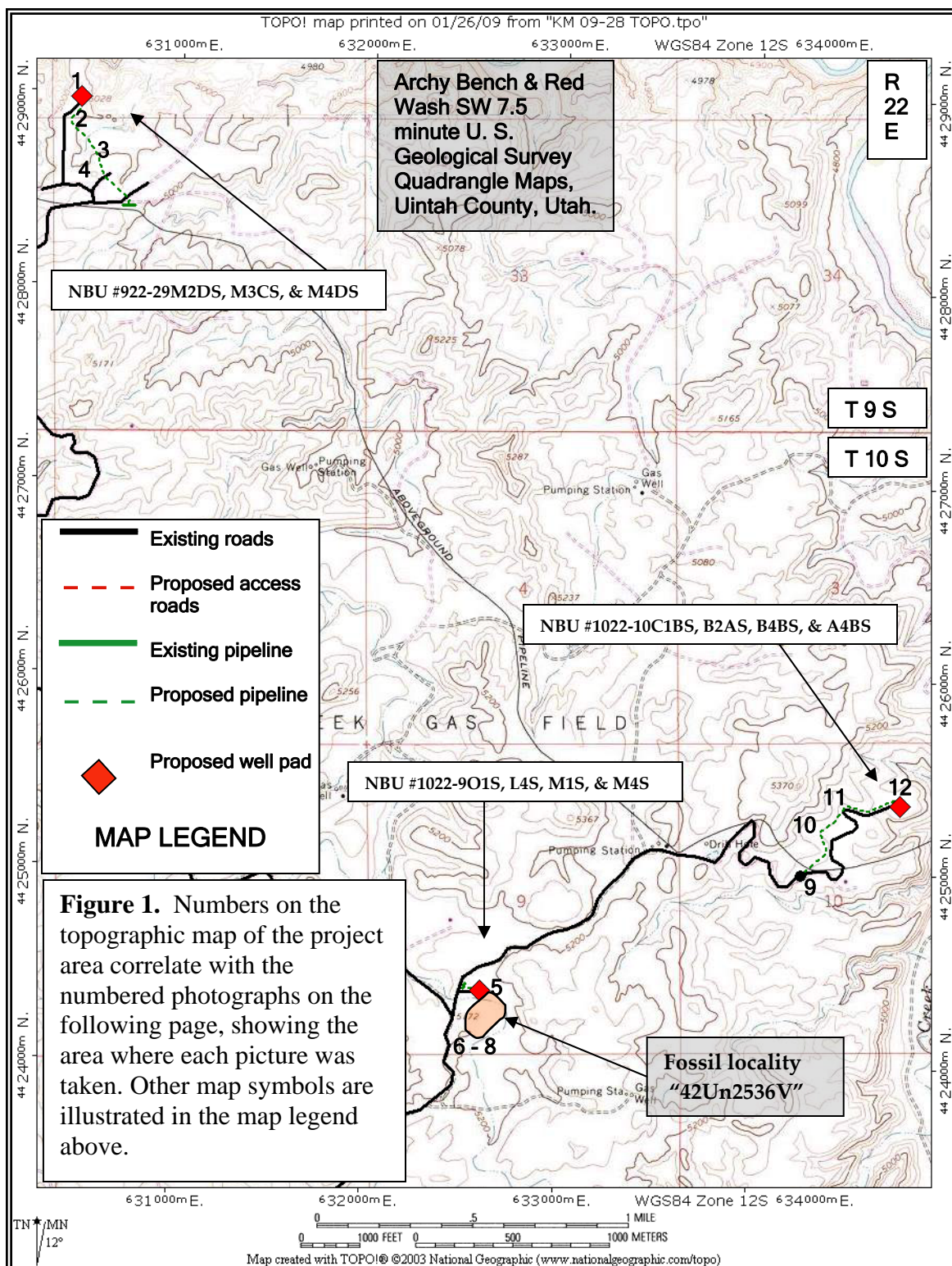


Figure 1. *continued...*

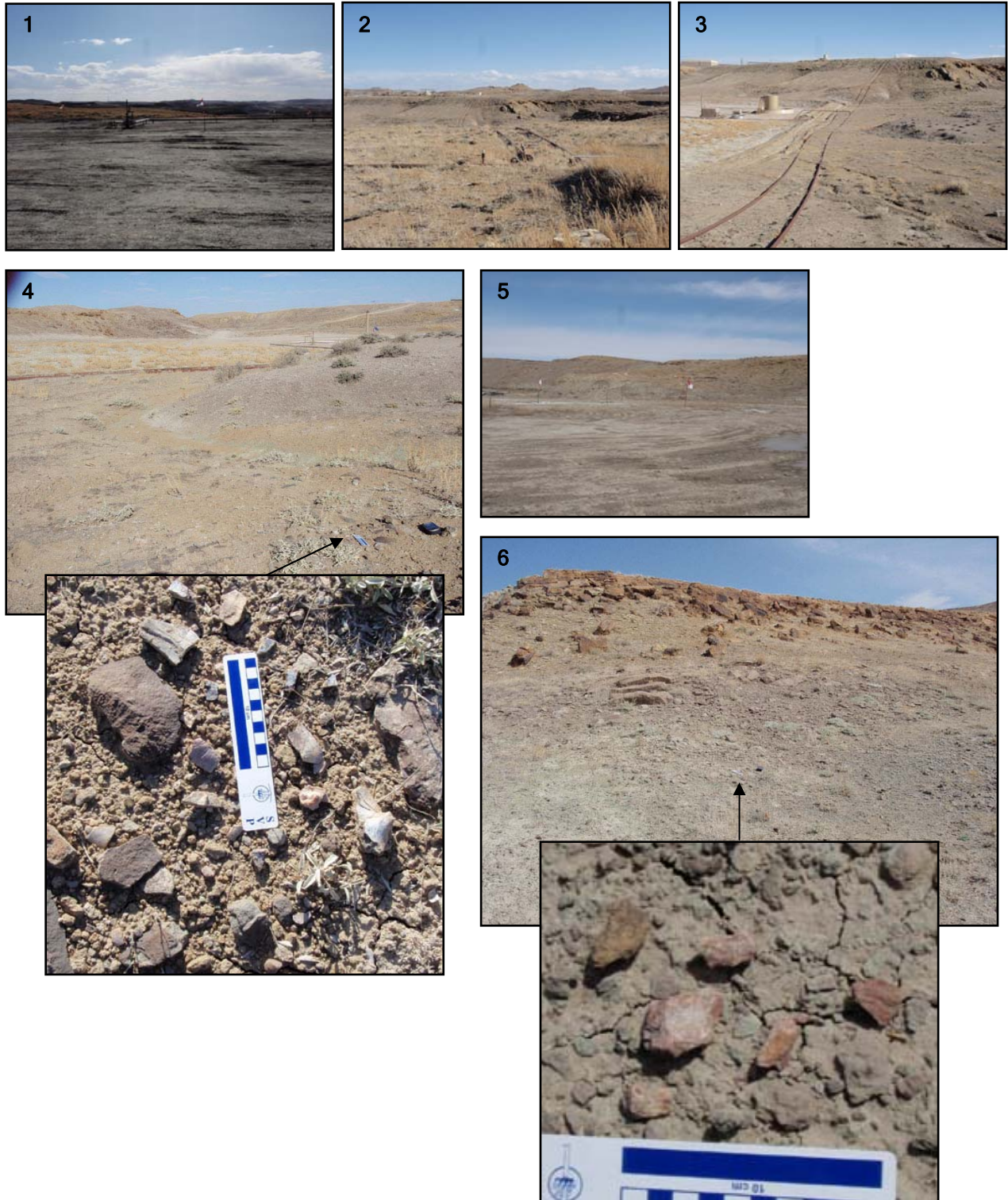
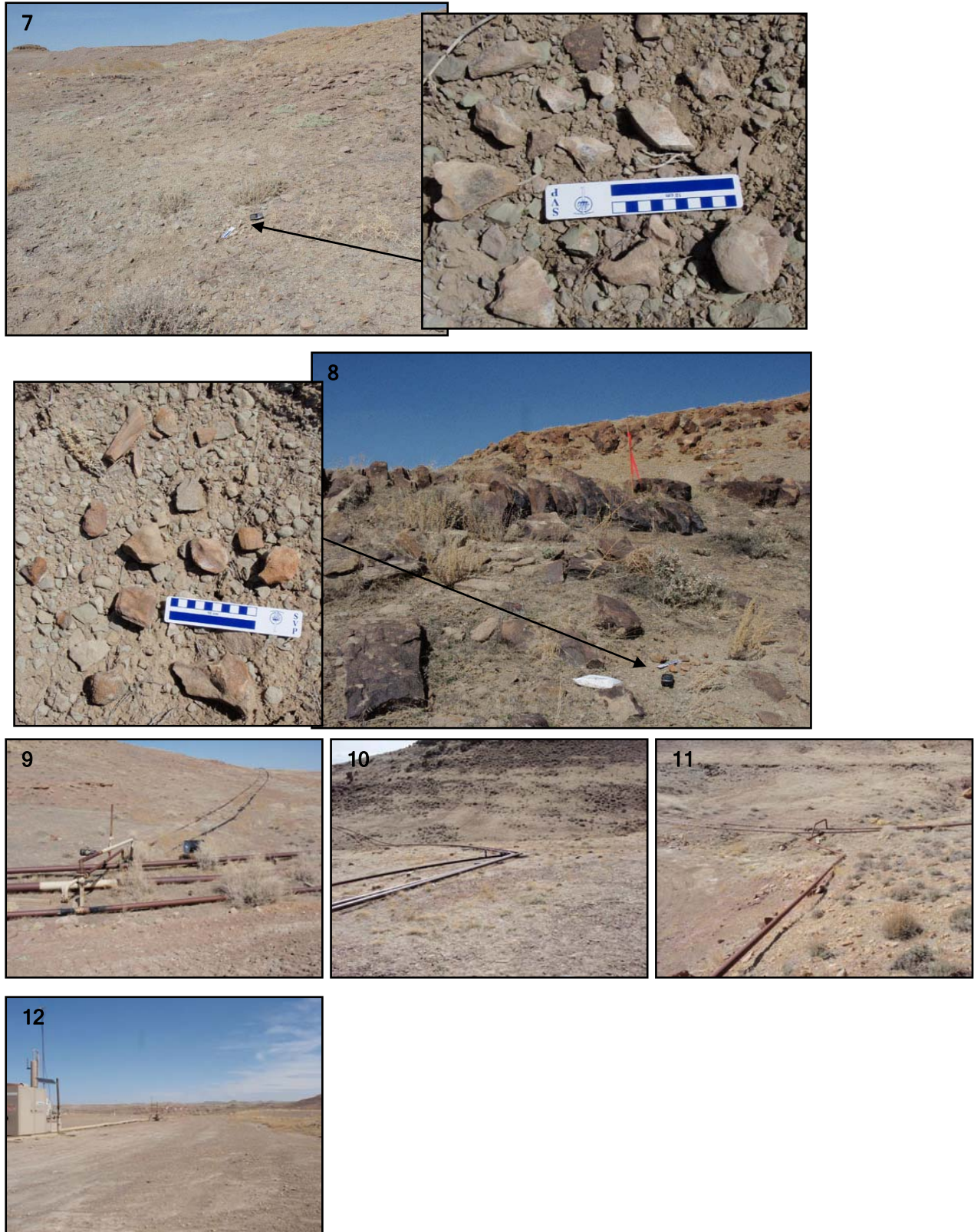
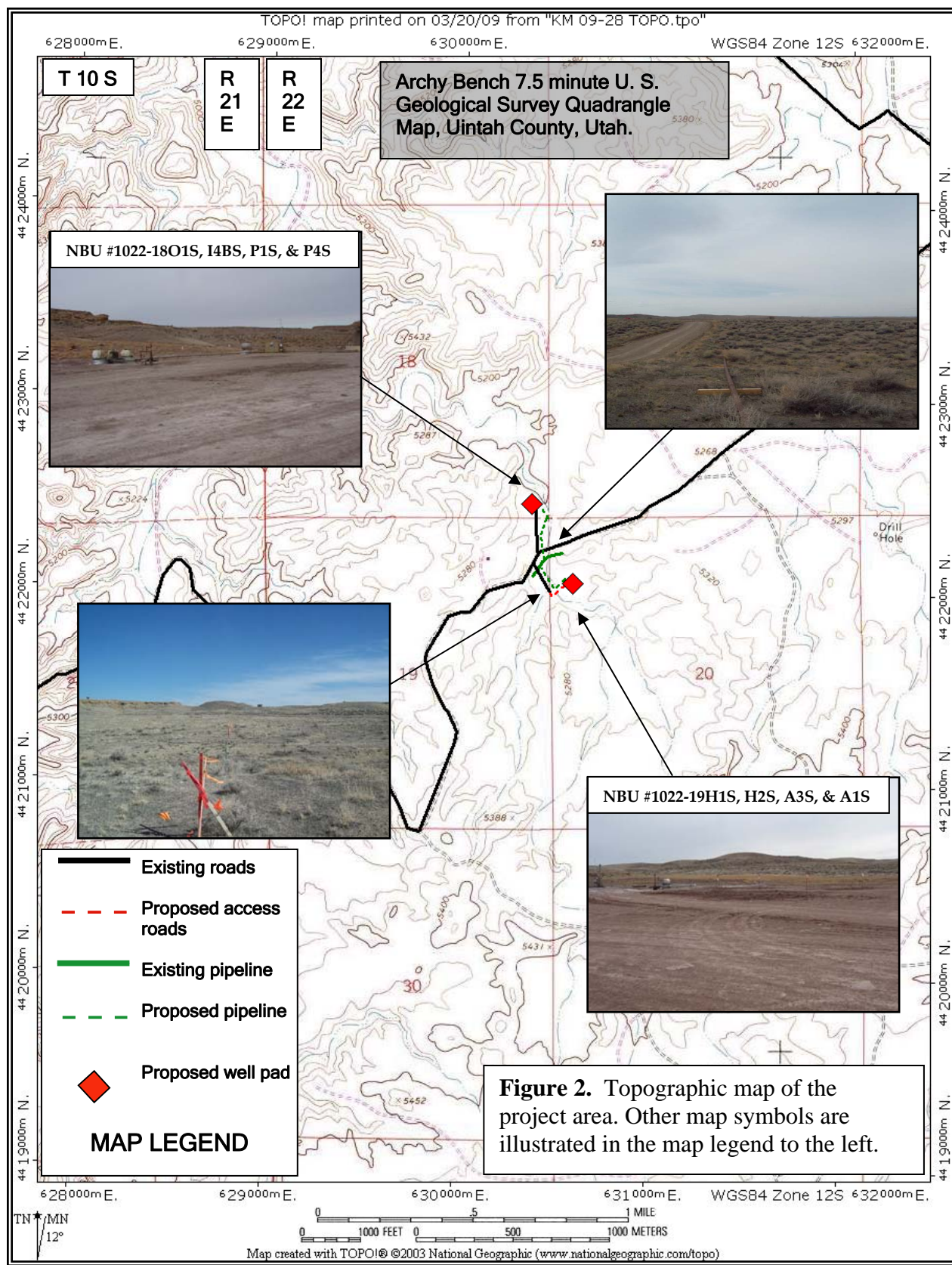


Figure 1. *continued...*





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United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:

3160
(UT-922)

April 24, 2009

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2009 Plan of Development Natural Buttes Unit Uintah
County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2009 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
43-047-50357	NBU 922-29M4DS	Sec 29 T09S R22E 0553 FSL 0525 FWL
	BHL	Sec 29 T09S R22E 0045 FSL 1145 FWL
43-047-50359	NBU 1022-10B4BS	Sec 10 T10S R22E 1066 FNL 1483 FEL
	BHL	Sec 10 T10S R22E 0703 FNL 1680 FEL
43-047-50360	NBU 1022-10B2AS	Sec 10 T10S R22E 1066 FNL 1503 FEL
	BHL	Sec 10 T10S R22E 0244 FNL 1966 FEL
43-047-50361	NBU 1022-10A4BS	Sec 10 T10S R22E 1067 FNL 1463 FEL
	BHL	Sec 10 T10S R22E 0805 FNL 0621 FEL

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File – Natural Buttes Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:4-24-09

From: Jim Davis
To: Bonner, Ed; Mason, Diana
Date: 5/5/2009 4:42 PM
Subject: Well approvals 5/5/09

CC: Garrison, LaVonne

The following wells have been approved by SITLA including arch and paleo clearance.

EC 98-16 (4304750251)
NBU 922-29M3CS (4304750342)
NBU 922-29M2DS (4304750343)

NBU 921-26B3S (4304750364)
NBU 921-26D1BS (4304750363)
NBU 921-26D1CS (4304750362)

NBU 922-29M4DS (4304750357)
NBU 922-29M3CS (4304750342)
NBU 922-29M2DS (4304750343)

NBU 1022-10C1BS (4304750358)
NBU 1022-10B2AS (4304750360)
NBU 1022-10A4BS (4304750361)
NBU 1022-10B4BS (4304750359)

-Jim

Jim Davis
Utah Trust Lands Administration
jimdavis1@utah.gov
Phone: (801) 538-5156

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1022-10A4BS 430475036			
String	Surf	Prod		
Casing Size(in)	9.625	4.500		
Setting Depth (TVD)	2050	8784		
Previous Shoe Setting Depth (TVD)	20	2050		
Max Mud Weight (ppg)	8.4	11.6		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3520	7780		
Operators Max Anticipated Pressure (psi)	5017	11.0		

Calculations	Surf String	9.625	"
Max BPH (psi)	.052*Setting Depth*MW=	895	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	649	NO OK
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	444	YES
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	448	NO Reasonable depth in area
Required Casing/BOPE Test Pressure=		2050	psi
*Max Pressure Allowed @ Previous Casing Shoe=		20	psi *Assumes 1psi/ft frac gradient

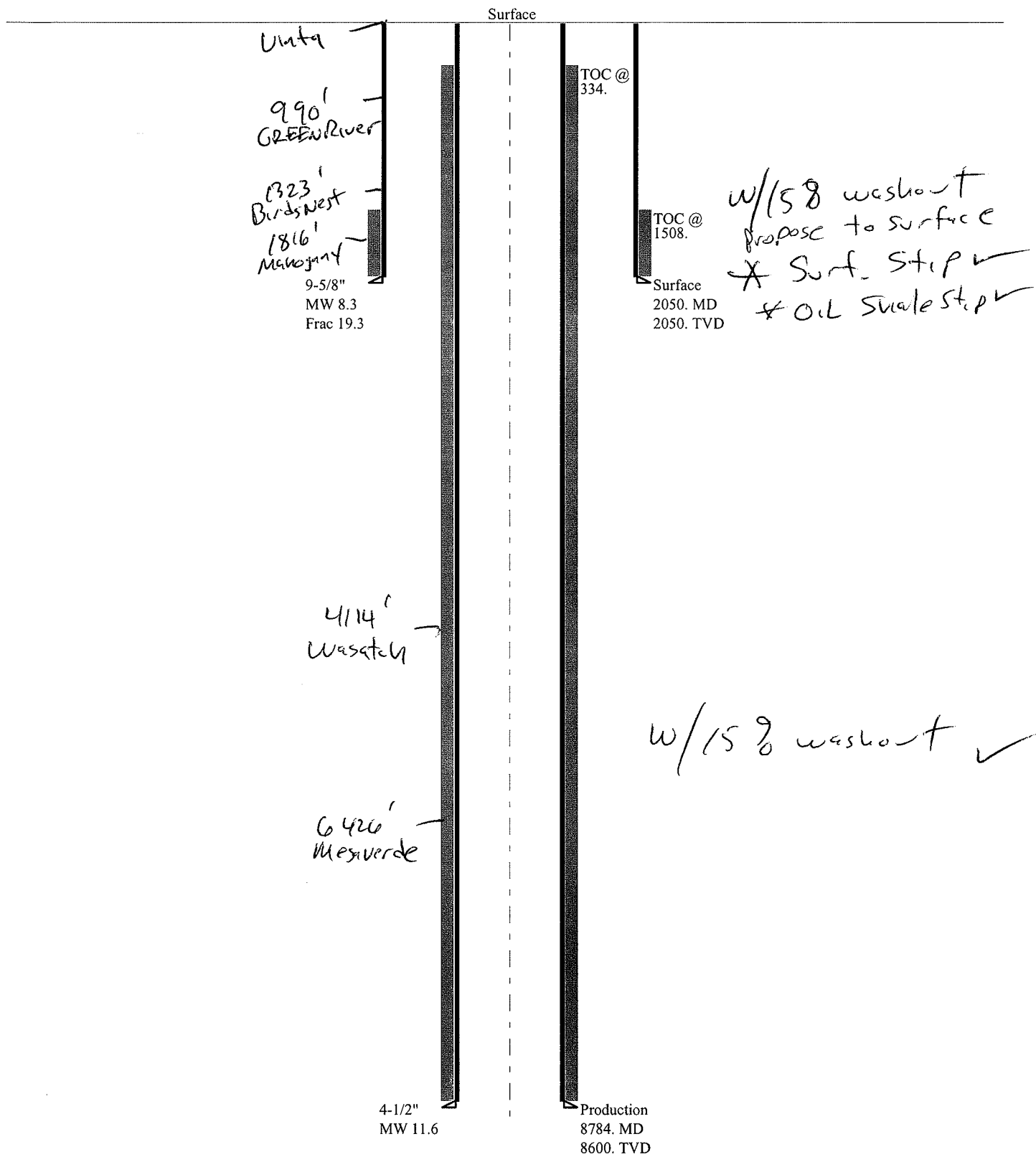
Calculations	Prod String	4.500	"
Max BPH (psi)	.052*Setting Depth*MW=	5299	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4245	YES OK
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	3367	YES
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	3818	NO Reasonable
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2050	psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BPH (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BPH (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

43047503610000 NBU 1022-10A4BS

Casing Schematic



Well name:	43047503610000 NBU 1022-10A4BS		
Operator:	KERR-MCGEE OIL & GAS ONSHORE, L.P.		
String type:	Surface	Project ID:	43-047-50361
Location:	UINTAH	COUNTY	

Design parameters:

Collapse

Mud weight: 8.330 ppg
Design is based on evacuated pipe.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 103 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 1,508 ft

Burst

Max anticipated surface pressure: 1,804 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 2,050 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
8 Round LTC: 1.70 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on air weight.
Neutral point: 1,797 ft

Directional Info - Build & Drop

Kick-off point 1960 ft
Departure at shoe: 2 ft
Maximum dogleg: 3 °/100ft
Inclination at shoe: 2.7 °

Re subsequent strings:

Next setting depth: 8,600 ft
Next mud weight: 11.600 ppg
Next setting BHP: 5,182 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 2,050 ft
Injection pressure: 2,050 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2050	9.625	36.00	J-55	LT&C	2050	2050	8.796	16764
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	887	1948	2.195 ✓	2050	3520	1.72 ✓	73.8	453	6.14 J ✓

Prepared by: Dustin Doucet
Div of Oil, Gas & Mining

Phone: 801 538-5281
FAX: 801-359-3940

Date: May 21, 2009
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 2050 ft, a mud weight of 8.33 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.

Well name:	43047503610000 NBU 1022-10A4BS		
Operator:	KERR-MCGEE OIL & GAS ONSHORE, L.P.		
String type:	Production	Project ID:	43-047-50361
Location:	UINTAH COUNTY		

Design parameters:

Collapse

Mud weight: 11.600 ppg
Design is based on evacuated pipe.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 194 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 334 ft

Burst

Max anticipated surface pressure: 4,239 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 5,182 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
8 Round LTC: 1.80 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.60 (B)

Tension is based on air weight.
Neutral point: 7,293 ft

Directional Info - Build & Drop

Kick-off point 1960 ft
Departure at shoe: 882 ft
Maximum dogleg: 3 °/100ft
Inclination at shoe: 0 °

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	8784	4.5	11.60	N-80	LT&C	8600	8784	3.875	36176
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	5182	6350	1.225 ✓	5271	7780	1.48 ✓	99.8	223	2.24 J ✓

Prepared by: Dustin Doucet
Div of Oil, Gas & Mining

Phone: 801 538-5281
FAX: 801-359-3940

Date: May 21, 2009
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 8600 ft, a mud weight of 11.6 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.

ON-SITE PREDRILL EVALUATION

Utah Division of Oil, Gas and Mining

Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.				
Well Name	NBU 1022-10A4BS				
API Number	43047503610000	APD No	1430	Field/Unit	NATURAL BUTTES
Location: 1/4,1/4	NWNE	Sec	10	Tw	10.0S
		Rng	22.0E	1067	FNL 1463 FEL
GPS Coord (UTM)	634817	4425171	Surface Owner		

Participants

Floyd Bartlett (DOGM), Ed Bonner (SITLA), Ramie Hoopes, Clay Einerson, Griz Oleen, Tony Kzneck, Charles Chase (Kerr McGee), Ben Williams (UDWR) and Kolby Kay (Timberline Engineering and Land Surveying).

Regional/Local Setting & Topography

The general area is in the southeast portion of the Natural Buttes Unit, which contains the White River and rugged drainages that drain into the White River. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River varies from ¼ mile to 2 miles. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 45 air miles to the northwest. Access from Vernal is approximately 56.4 road miles following Utah State, Uintah County and oilfield development roads to the location.

The pad of the existing NBU 231 producing gas well is proposed to be enlarged for an additional 4 wells. They are the NBU 1022-10B4BS, 1022-10C1BS, 10B2AS and the 10A4BS. Due to topography constraints it will be difficult to enlarge the pad as planned. It is to be extended on all sides. It is on a rocky ridge that leads away from a higher ridge to the west. Terrain is especially limiting where the reserve pit and proposed second pit join the steep break-off to the south. It was determined that the flow-back pit will be eliminated at least at this time. Some of the reserve pit spoils can be stored in this area. Also, some of the reserve pit and excess cut stockpile at Corners 5 and 6, will be moved to the northeast as needed. Reserve pit corner C and Location Corner 5 are both in fills. Additional rounding in this area or moving the pit to the west should be done if feasible. If no changes are made, good compaction including the 10' bench must be obtained on this corner. No diversions are needed around the location. Bitter Creek, which is an ephemeral drainage, is about ¼ mile to the east. It joins the White River about ¼ mile to the north. The existing pad shows no stability problems. It is expected with the above adjustments that the location including the reserve pit should be stable and it is the only suitable site in the area.

Both the surface and minerals are owned by SITLA.

Surface Use Plan

Current Surface Use

Grazing
Wildlife Habitat
Existing Well Pad

New Road Miles	Well Pad	Src Const Material	Surface Formation
0	Width 330 Length 500	Onsite	UNTA

Ancillary Facilities N

Waste Management Plan Adequate?

Environmental Parameters

Affected Floodplains and/or Wetlands N

Flora / Fauna

Area beyond the existing pad is poorly vegetated with greasewood, cheatgrass, black sagebrush, broom snakeweed, Sitanion hystrix, shadscale, pepper weed, halogeton and annuals.

Sheep, deer, antelope, coyote, and other small mammals and birds.

Soil Type and Characteristics

Shallow rocky sandy loam.

Erosion Issues N

Sedimentation Issues N

Site Stability Issues Y

Only concern is for the reserve pit.

Drainage Diversion Required? N

Berm Required? N

Erosion Sedimentation Control Required? N

Paleo Survey Run? Y **Paleo Potential Observed?** N **Cultural Survey Run?** Y **Cultural Resources?** N

Reserve Pit

Site-Specific Factors		Site Ranking
Distance to Groundwater (feet)	>200	0
Distance to Surface Water (feet)	>1000	0
Dist. Nearest Municipal Well (ft)	>5280	0
Distance to Other Wells (feet)		20
Native Soil Type	High permeability	20
Fluid Type	Fresh Water	5
Drill Cuttings	Normal Rock	0
Annual Precipitation (inches)		0
Affected Populations		
Presence Nearby Utility Conduits	Not Present	0
Final Score		45
		1 Sensitivity Level

Characteristics / Requirements

The reserve pit is planned primarily in an area of cut in the southeast corner of the location. Dimensions are 100' x 250' x 10' deep with 2' of freeboard. Reserve pit corner C and Location Corner 5 are both in fills. Additional rounding in this area or moving the pit to the west should be done if feasible. If no changes are made, good compaction including the 10' bench must be obtained on this corner. Because the length of time the reserve pit will be used and the roughness of the terrain, Kerr McGee committed to line it with a 30-mil. liner and an appropriate thickness of felt sub-liner to cushion the rock. The second pit shown is not approved with this permit. Kerr McGee was informed they would have to submit a separate application and plan for this pit.

Closed Loop Mud Required? N Liner Required? Liner Thickness 30 Pit Underlayment Required? Y

Other Observations / Comments

On 5/13/2009 the following met and discussed the changes incorporated in the above description. Floyd Bartlett (DOGM), Clay Einerson, Lovell Young (Kerr McGee), and Kolby Kay (Timberline Engineering and Land Surveying).

Floyd Bartlett

Evaluator

4/28/2009

Date / Time

Application for Permit to Drill

Statement of Basis

5/26/2009

Utah Division of Oil, Gas and Mining

Page 1

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
1430	43047503610000	SITLA	GW	S	No
Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.		Surface Owner-APD		
Well Name	NBU 1022-10A4BS		Unit	NATURAL BUTTES	
Field	NATURAL BUTTES		Type of Work	DRILL	
Location	NWNE 10 10S 22E S 1067 FNL 1463 FEL GPS Coord (UTM) 634839E 4425159N				

Geologic Statement of Basis

Kerr McGee proposes to set 2,050' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 4,700'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the proposed location. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought up above the base of the moderately saline ground water to isolate it from fresher waters uphole.

Brad Hill
APD Evaluator

5/18/2009
Date / Time

Surface Statement of Basis

The general area is in the southeast portion of the Natural Buttes Unit, which contains the White River and rugged drainages that drain into the White River. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River varies from ¼ mile to 2 miles. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 45 air miles to the northwest. Access from Vernal is approximately 56.4 road miles following Utah State, Uintah County and oilfield development roads to the location.

The pad of the existing NBU 231 producing gas well is proposed to be enlarged for an additional 4 wells. They are the NBU 1022-10B4BS, 1022-10C1BS, 10B2AS and the 10A4BS. Due to topography constraints it will be difficult to enlarge the pad as planned. It is to be extended on all sides. It is on a rocky ridge that leads away from a higher ridge to the west. Terrain is especially limiting where the reserve pit and proposed second pit join the steep break-off to the south. It was determined that the flow-back pit will be eliminated at least at this time. Some of the reserve pit spoils can be stored in this area. Also, some of the reserve pit and excess cut stockpile at Corners 5 and 6, will be moved to the northeast as needed. Reserve pit corner C and Location Corner 5 are both in fills. Additional rounding in this area or moving the pit to the west should be done if feasible. If no changes are made, good compaction including the 10' bench must be obtained on this corner. No diversions are needed around the location. Bitter Creek, which is an ephemeral drainage, is about ¼ mile to the east. It joins the White River about ¼ mile to the north. The existing pad shows no stability problems. It is expected with the above adjustments that the location including the reserve pit should be stable and it is the only suitable site in the area.

Both the surface and minerals are owned by SITLA. Ed Bonner of SITLA attended the pre-site and was agreeable to the modifications. He had no additional concerns regarding the proposal.

Ben Williams of the Utah Division of Wildlife Resources also attended the pre-site. Mr. Williams stated no wildlife values would be significantly affected by drilling and operating the wells at this location. He provided Ed Bonner of SITLA and Ramie Hoopes of Kerr McGee a written wildlife evaluation and a copy of a

Application for Permit to Drill Statement of Basis

5/26/2009

Utah Division of Oil, Gas and Mining

Page 2

recommended seed mix to be used for re-vegetating the disturbed area.

Floyd Bartlett
Onsite Evaluator

4/28/2009
Date / Time

Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 30 mils with a felt subliner shall be properly installed and maintained in the reserve pit.
Surface	The reserve pit shall be fenced upon completion of drilling operations.

WORKSHEET

APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 4/22/2009

API NO. ASSIGNED: 43047503610000

WELL NAME: NBU 1022-10A4BS

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)

PHONE NUMBER: 720 929-6007

CONTACT: Kathy Schneebeck-Dulnoan

PROPOSED LOCATION: NWNE 10 100S 220E

Permit Tech Review: ☒

SURFACE: 1067 FNL 1463 FEL

Engineering Review: ☒

BOTTOM: 0805 FNL 0621 FEL

Geology Review: ☒

COUNTY: UINTAH

LATITUDE: 39.96773

LONGITUDE: -109.42117

UTM SURF EASTINGS: 634839.00

NORTHINGS: 4425159.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 3 - State

LEASE NUMBER: UO 01197A

PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE

SURFACE OWNER: 3 - State

COALBED METHANE: NO

RECEIVED AND/OR REVIEWED:

☒ **PLAT**

☒ **Bond:** STATE/FEE - 22013542

☐ **Potash**

☒ **Oil Shale 190-5**

☐ **Oil Shale 190-3**

☐ **Oil Shale 190-13**

☒ **Water Permit:** Permit #43-8496

☐ **RDCC Review:**

☐ **Fee Surface Agreement**

☐ **Intent to Commingle**

Commingle Approved

LOCATION AND SITING:

☐ **R649-2-3.**

Unit: NATURAL BUTTES

☐ **R649-3-2. General**

☐ **R649-3-3. Exception**

☒ **Drilling Unit**

Board Cause No: Cause 173-14

Effective Date: 12/2/1999

Siting: 460' fr u bdry & uncomm. tract

☒ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations:
5 - Statement of Basis - bhill
15 - Directional - dmason
17 - Oil Shale 190-5(b) - dmason
25 - Surface Casing - ddoucet



JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

Permit To Drill

Well Name: NBU 1022-10A4BS

API Well Number: 43047503610000

Lease Number: UO 01197A

Surface Owner: STATE

Approval Date: 5/27/2009

Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P. , P.O. Box 173779, Denver, CO 80217

Authority:

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14 . The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Surface casing shall be cemented to the surface.

Notification Requirements:

The operator is required to notify the Division of Oil, Gas and Mining of the following action during drilling of this well:

- 24 hours prior to cementing or testing casing - contact Dan Jarvis
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to spudding the well - contact Carol Daniels
- Within 24 hours of any emergency changes made to the approved drilling program - contact

Dustin Doucet

- Prior to commencing operations to plug and abandon the well - contact Dan Jarvis

The operator is required to get approval from the Division of Oil, Gas and Mining before performing any of the following actions during the drilling of this well:

- Plugging and abandonment or significant plug back of this well - contact Dustin Doucet
- Any changes to the approved drilling plan - contact Dustin Doucet

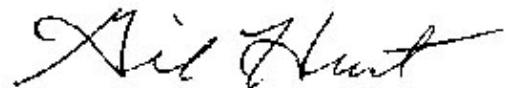
The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voice mail message if the person is not available to take the call):

- Dan Jarvis at: (801) 538-5338 office
(801) 942-0871 home
- Carol Daniels at: (801) 538-5284 office
- Dustin Doucet at: (801) 538-5281 office
(801) 733-0983 home

Reporting Requirements:

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

Approved By:



Gil Hunt
Associate Director, Oil & Gas

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UO 01197A
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 1022-10A4BS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1067 FNL 1463 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 10 Township: 10.0S Range: 22.0E Meridian: S		9. API NUMBER: 43047503610000
PHONE NUMBER: 720 929-6007 Ext		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 8/4/2009	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER:	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# CONDUCTOR PIPE. CMT W/28 SX READY MIX. SPUD WELL LOCATION ON 08/04/2009 AT 14:30 HRS.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY August 05, 2009		
NAME (PLEASE PRINT) Andy Lytle	PHONE NUMBER 720 929-6100	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 8/5/2009	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UO 01197A
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 1022-10A4BS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1067 FNL 1463 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 10 Township: 10.0S Range: 22.0E Meridian: S		9. API NUMBER: 43047503610000
PHONE NUMBER: 720 929-6007 Ext		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 8/9/2009	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER:	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU PROPETRO AIR RIG ON 08/08/2009. DRILLED 12-1/4" SURFACE HOLE TO 2080'. RAN 9-5/8" 36# J-55 SURFACE CASING. CMT TAIL W/290 SX PRE CLASS G @ 15.8 PPG, 1.15 YIELD. DISPLACED W/155.4 BBLS, BUMPED PLUG, FLOATS HELD, NO CMT TO SURFACE. TOP OUT W/100 SX @ 15.8 PPG, 1.15 YIELD. WORT.		
<div style="text-align: right;"> Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY August 11, 2009 </div>		
NAME (PLEASE PRINT) Andy Lytle		PHONE NUMBER 720 929-6100
SIGNATURE N/A		TITLE Regulatory Analyst
DATE 8/11/2009		

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UO 01197A
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 1022-10A4BS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1067 FNL 1463 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 10 Township: 10.0S Range: 22.0E Meridian: S		9. API NUMBER: 43047503610000
PHONE NUMBER: 720 929-6007 Ext		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 11/24/2009	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> CHANGE WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG BACK	
	<input checked="" type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: _____	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 11/24/2009 AT 02:00 P.M. PLEASE REFER TO THE ATTACHED CHRONOLOGICAL WELL HISTORY.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY December 01, 2009		
NAME (PLEASE PRINT) Andy Lytle	PHONE NUMBER 720 929-6100	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 11/30/2009	

US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]		Spud Conductor: 8/4/2009		Spud Date: 8/8/2009	
Project: UTAH-UINTAH		Site: NBU 1022-10B PAD		Rig Name No: ENSIGN 139/139, PROPETRO/	
Event: DRILLING		Start Date: 8/7/2009		End Date: 9/5/2009	
Active Datum: RKB @5,462.00ft (above Mean Sea Level)			UWI: NBU 1022-10A4BS		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
8/8/2009	6:30 - 11:00	4.50	DRLSUR	01	A	P		MOVE RIG
	11:00 - 14:00	3.00	DRLSUR	01	B	P		RIG UP
	14:00 - 16:00	2.00	DRLSUR	02	A	P		AIR HAMMER TO SPUD 12.25 HOLE 40 TO 190
	16:00 - 17:00	1.00	DRLSUR	06	A	P		TOH W/ AIR HAMMER DRILL F/ 40 TO 190'
	17:00 - 18:00	1.00	DRLSUR	06	A	P		P/U MWD TOOLS
	18:00 - 18:30	0.50	DRLSUR	06	A	P		TIHW MWD TOOLS
	18:30 - 0:00	5.50	DRLSUR	02	A	P		DRILL F/190 TO 790'
8/9/2009	0:00 - 12:30	12.50	DRLSUR	02	B	P		DRILL F/ 790 TO 2080'
	12:30 - 13:00	0.50	DRLSUR	05	A	P		CIRC. HOLE CLEAN
	13:00 - 16:30	3.50	DRLSUR	06	A	P		TOH TO RUN 9 5/8 CASING
	16:30 - 18:30	2.00	DRLSUR	12	C	P		RIG UP RUN 47 JTS 9 5/8 # 36 J-55 LT&C SHOE 2053' BAFF @ 2011'
	18:30 - 19:00	0.50	DRLSUR	05	A	P		CIRC 9 5/8 CSG.
	19:00 - 21:00	2.00	DRLSUR	12	E	P		RIG DOWN RIG RELEASED @ 19:00 08/09/2009 CMT TAIL 1# 15.8 YIELD 1.15 290 SX CMT 35% EXCESS W/ 2% CALC2, 1/4 LBPER SX FLOW SEAL, DISPLACED W/XXX BBLS BUMPED PLUG ,FLOATS HELD, NO CMT TO SURFACE, TOP OUT W/ 100 SX 15.8 YIELD 1.15
								RIG DOWN WILL BE MOVING THIS AM W/ KERR TRUCKING
8/25/2009	21:00 - 0:00	3.00	DRLPRO	01	A	P		RIG DOWN ROT TOOLS
8/26/2009	0:00 - 8:00	8.00	DRLPRO	01	E	P		LOWER DERRICK & R/D DERRICK & MOVE RIG & 100% MOVED & 40% SET IN - 11 TRUCK TOTAL - 6 HAUL TRUCK - 3 BED TRUCKS - 2 GIN TRUCK - 2 GIN FORKLIFTS.
	8:00 - 20:00	12.00	DRLPRO	01	A	P		IDLE
8/27/2009	20:00 - 0:00	4.00	DRLPRO	01	B	P		IDLE
	0:00 - 6:00	6.00	DRLPRO	01	B	P		IDLE
	6:00 - 12:30	6.50	DRLPRO	01	B	P		FINSH SET IN RIG _ TRUCKS OFF LOCTION @ 12.30
8/28/2009	12:30 - 0:00	11.50	DRLPRO	01	B	P		RURT - RAISE DERRICK @ 16:00 - CONTINUE RURT - (NOTE : REPLACED COMM CABLE TO IRON DERRICK HAND)
	0:00 - 8:30	8.50	DRLPRO	01	B	P		RURT -
	8:30 - 14:00	5.50	DRLPRO	15	A	P		TEST B.O.P'S - TOP DRIVE VALUES - PIPE RAMS - BLIND RAMS - 4" - 2" VALVES - HCR - CKOKE MAINFOLD - SAFETY VALUES - 250 LOW - 5000 HIGH - ANNULAR 250 LOW - 2500 HIGH - SURFACE CASING 1500 PSI
8/29/2009	14:00 - 14:30	0.50	DRLPRO	14	B	P		INSTALL WEAR BUSHING
	14:30 - 15:30	1.00	DRLPRO	23		P		PRE SPUD RIG INSPECTION
	15:30 - 16:00	0.50	DRLPRO	07	A	P		SER RIGS TOP DRIVE
	16:00 - 0:00	8.00	DRLPRO	06	A	P		FINSH LOADING RACK & STRAP D.P. & P/U DIR TOOLS & SCRIBE - THE BOTTOM CONNECTOR IN THE SEAT TOOLS ON MWD WAS WORE BUT NEW IT WAS MOVING 20 - 40 DEGREES C/O BOTTOM TOOL - CONT. TO P/U BHA & D.P.
	0:00 - 1:00	1.00	DRLPRO	02	F	P		TAG CEMENT @ 1971 & DRILL CEMENT & F.E
	1:00 - 14:00	13.00	DRLPRO	02	D	P		DRILL-SLIDE F/ 2080 TO 3123 - 1043' @ 80.2 FPH W/ 8.4 MUD WT - VIS 26 - RPM 45 MRPM 112 - WOB 12/16 - TQ - 8/6 - GPM 487
	14:00 - 14:30	0.50	DRLPRO	07	A	P		SER RIG

RECEIVED November 30, 2009

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]		Spud Conductor: 8/4/2009		Spud Date: 8/8/2009	
Project: UTAH-UINTAH		Site: NBU 1022-10B PAD		Rig Name No: ENSIGN 139/139, PROPETRO/	
Event: DRILLING		Start Date: 8/7/2009		End Date: 9/5/2009	
Active Datum: RKB @5,462.00ft (above Mean Sea Level)			UWI: NBU 1022-10A4BS		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
8/30/2009	14:30 - 0:00	9.50	DRLPRO	02	D	P		DRILL - SLIDE F/ 3123 TO 4000' - 877" @ 92.3 FPH W/ 8.3 PPG MUD WT - VIS 26 - RPM 45 - MRPM 112 - WOB 12/16 - TQ 9/7 - GPM 487
	0:00 - 12:30	12.50	DRLPRO	02	D	P		DRILL-SLIDE F/ 4000 TO 5206 - 1206' @ 96.48 FPH W/ 8.4 MUD WT VIS 27 - RPM 45 - MRPM - 112 - WOB 14/16 - TQ 10/7 - GPM 487
	12:30 - 13:00	0.50	DRLPRO	07	A	P		SER RIG
	13:00 - 0:00	11.00	DRLPRO	02	D	P		DRILL - SLIDE F/ 5206 TO 6040 - 834' @ 75.8 FPH W/ 8.4 MUD WT VIS 27 - RPM 45 - MRPM - 112 - WOB 14/16 - TQ 10/7 - GPM 487 - STARTED LIGHT UP ON SYSTEM @ 6000
8/31/2009	0:00 - 12:00	12.00	DRLPRO	02	D	P		DRILL - SLIDE F/ 6040 TO 6428 - 388' @ 32.3 FPH W/ 9.0 PPG MUD WT VIS 36 - RPM 45 - MRPM 112 - WOB 16/20 - TQ 13/9 - GPM 487- WELL DIR IS TRY TO GO TO THE NORTH EAST
	12:00 - 12:30	0.50	DRLPRO	07	A	P		SER RIG
	12:30 - 0:00	11.50	DRLPRO	02	D	P		DRILL-SLIDE F/ 6428 TO 6840 - 412' @ 35.8 FPH W/ 9.8 PPG MUD WT VIS 36 - RPM 45 MRPM 112 - WOB 18/20 - TQ- 13/9 - GPM 487 - WELL SEEPING FLUID @ 6930 LOST 100 BBL PUMP LCM SWEEP - OLD WELL NBU 231 PREFORATED F/ 4964' TO 7012'
9/1/2009	0:00 - 13:00	13.00	DRLPRO	02	D	P		DRILL-SLIDE F/ 6840 TO 7370 - 530' @ 40.7 FPH W/ 10.5 PPG MUD WT VIS 38 - RPM 45 - MRPM 112 - WOB 18/20 - TQ 16/13 - GPM 487
	13:00 - 13:30	0.50	DRLPRO	07	A	P		SER RIG
	13:30 - 0:00	10.50	DRLPRO	02	D	P		DRILL F/ 7370 TO 7683 - 313' @ 29.8 FPH W/ 11.0 PPG MUD WT VIS 39 - LCM @ 3% - RPM 45 - MRPM 112 - WOB 18/20 - TQ 16/13 - GPM 487
9/2/2009	0:00 - 13:00	13.00	DRLPRO	02	D	P		DRILL-SLIDE F/ 7683 TO 8057 - 374' @ 28.7 FPH W/ 11.5 MUD WT VIS 40 - 3% LCM - RPM 45 -MRPM 112 - WOB 20/23 - TQ 18/15 - GPM 487 - LAST SURVEY 8002' INC .17 - AZM 89.69
	13:00 - 14:00	1.00	DRLPRO	06	A	P		PUMP 4 STANDS & PUMP SLUG ON 5 STAND & RUN INTO IRON ROUGH NECK W/ D.P ELEVATORS.
	14:00 - 18:30	4.50	DRLPRO	08	A	Z		REPAIR HOSES ON ELEVATORS & THE RON ROUGH NECK WAS PARK IN THE CENTER WHEN THE ELEVATORS HIT POWER SHOE THE IRON DERRICK DRIFT OUT PAST CENTER,(TORE LOSE A IRON PLATE AT THE TOP OF POWER SHOE WHERE THE PIN IS THAT HOLDS THE POWER SHOE AT THE BOTTOM OF CYL. AT THE SCOPING TUBE.
9/3/2009	18:30 - 0:00	5.50	DRLPRO	06	A	P		T.F.N.B (L.D.D.P) - L/D 10 JTS MORE PUMPING & ROTATING & PUMP DRY JOB & CONT L.D.D.P
	0:00 - 5:30	5.50	DRLPRO	06	A	P		T.F.N.B (L.D.D.P & BHA
	5:30 - 7:00	1.50	DRLPRO	06	A	P		L/D DIR TOOLS & BIT & MOTOR
	7:00 - 8:00	1.00	DRLPRO	06	A	P		LAY DOWN 4 STANDS IN DERRICK
	8:00 - 9:30	1.50	DRLPRO	06	A	P		P/U BIT - MOTOR - MONEL DC. & TEST MOTOR
	9:30 - 18:00	8.50	DRLPRO	06	A	P		P/U BHA & D.P & T.I.H
	18:00 - 18:30	0.50	DRLPRO	03	E	P		WASH 90' TO BOTTOM
	18:30 - 0:00	5.50	DRLPRO	02	D	P		DRILL F/ 8057 TO 8365 - 308' @ 56.0 FPH W/ 11.8 PPG MUD WT VIS 42 - LCM 3% - RPM 45 - MRPM 68 - WOB 16/18 - TQ 14/11 - GPM 487
9/4/2009	0:00 - 4:30	4.50	DRLPRO	02	D	P		DRILL F/ 8365 TO 8667 - 302' @ 67.1 FPH W/ 11.8 PPG NUD WT VIS 43 - 5% LCM - RPM 45 - MRPM 68 -WOB 16/18 - TQ 18/15 - GPM 470
	4:30 - 6:00	1.50	DRLPRO	08	A	P		REPAIR FAN BELTS ON #1 GEN SET

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]		Spud Conductor: 8/4/2009		Spud Date: 8/8/2009	
Project: UTAH-UINTAH		Site: NBU 1022-10B PAD		Rig Name No: ENSIGN 139/139, PROPETRO/	
Event: DRILLING		Start Date: 8/7/2009		End Date: 9/5/2009	
Active Datum: RKB @5,462.00ft (above Mean Sea Level)			UWI: NBU 1022-10A4BS		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
9/5/2009	6:00 - 7:00	1.00	DRLPRO	02	D	P		DRILL F/ 8667 TO 8725 - 58' @ 58.0 FPH W/ 12.0 PPG MUD WT VIS 43 - LCM 5% - RPM 45 - MRPM 68 - WOB 16/18 - TQ 18/15 - GPM 470 - TD WELL @ 8725 - 07:00 AM ON 9/4/2009
	7:00 - 8:30	1.50	DRLPRO	05	C	P		CIRC BTM UP
	8:30 - 18:00	9.50	DRLPRO	06	D	P		DROP SURVEY TOOL & T.O.H - L.D.D.P (PUMP - ROT OUT 10 JTS & PUMP SLUG & CONT. L.D.D.P & BHA TO RUN CASING.
	18:00 - 18:30	0.50	DRLPRO	14	B	P		PULL WEAR BUSHING & M/U CIRC SUB TO TOP DRIVE.
	18:30 - 0:00	5.50	DRLPRO	12	C	P		HELD SAFETY MEETING & R/U KIMZEY CASING & RUN 4 1/2 PRODUCTION STRING
	0:00 - 0:30	0.50	DRLPRO	14	A	P		NIPPLE DOWN & TRANS 700 BBLS MUD TO SECONDARY TANKS & CLEAN MUD TANKS & RELEASED RIG @ 08:00 AM ON 09/05/2009
	0:30 - 1:30	1.00	DRLPRO	12	C	P		RUN 4 1/2 PROD. STRING SET @ SHOE 8,690 - FLOAT COLLAR 8,645 RUN 198 JTS PLUS MARKER. @ 8,703
	1:30 - 3:00	1.50	DRLPRO	05	A	P		CIRC BTM UP
	3:00 - 6:30	3.50	DRLPRO	12	E	P		HELD SAFETY MEETING & R/U HALLIBURTON CEMENT HEAD & TEST LINES 5,000 PSI CEMENT W/ 40 BBLS WATER - F/ LEAD 500 SKS @ 12.0 PPG YIELD 2.25 F/ TAIL 1350 SKS @ 14.3 PPG YIELD 1.25 - DROP PLUG & DISPLACED W/ 134.5 BBLS WATER & BUMP PLUG W/ FINAL CIRC OF 2200 W/ 500 OVER - HAD FULL RETURNS & GOT BACK 40 BBLS WATER TURNING GRAY WHEN BUMP PLUG & DOWN 05:45 AM. - PLUG HELD & R/D HALLIBURTON
	6:30 - 8:00	1.50	DRLPRO	14	B	P		AFTER CEMENTING COULDN'T LAND CASING HANGER & P/U STACK & SET SLIPS 125K
	8:00 - 12:00	4.00	DRLPRO	08	A	P		STRING WT & CUT OFF CASING & L/D LAND JT TOOK 4 HRS DOWN TIME DO TO PRIOR TRIP F/ BIT & AFTER I.D.M WAS BROKE DOWN

RECEIVED November 30, 2009

US ROCKIES REGION **Operation Summary Report**

Well: NBU 1022-10A4BS [GREEN]		Spud Conductor: 8/4/2009	Spud Date: 8/8/2009
Project: UTAH-UINTAH		Site: NBU 1022-10B PAD	Rig Name No:
Event: COMPLETION		Start Date: 11/16/2009	End Date: 11/23/2009
Active Datum: RKB @5,462.00ft (above Mean Sea Level)		UWI: NBU 1022-10A4BS	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
10/30/2009	-							
11/16/2009	7:00 - 7:15	0.25	COMP	48		P		HSM, R/U
	7:15 - 16:30	9.25	COMP	47	A	P		MIRU SUPERIOR FRAC & SCHLUM WIRE LINE EQUIP, PREP TO FRAC. P/U RIH W/ 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 4 SPF, 90* PH, 8590'-8596' 24 HOLES. 8318'-8322' 16 HOLES. [40 HOLES]
11/17/2009	5:30 - 6:30	1.00	COMP	48		P		CAZ BROKE DN HAD TO REPLACE STARTERSTG HSM, P/T SURFACE LINES TO 8500#
	6:30 - 18:30	12.00	COMP	36	E	P		FRAC STG #1 MESAVERDE 8318'-8596' [40 HOLES] STG #1]WHP=1360#, BRK DN PERFS @ 3942#, INJ PSI=5000#, INJT RT=44, ISIP=2808#, FG=.76, PUMP'D 1410 BBLS SLK WTR W/ 50147# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2791, FG=.76, AR=47.3, AP=5171#, MR=48.6, MP=6080#, NPI=-17#, 40/40 CALC PERFS OPEN 100%. STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 8252', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 8218'-8222' 4 SPF, 90* PH, 16 HOLES. 8126'-8128' 4 SPF, 90* PH, 8 HOLES. 8084'-8088' 4 SPF, 90* PH, 16 HOLES. [40 HOLES]
11/18/2009	6:30 - 7:00	0.50	COMP	48		P		HSM, P/T SURFACE LINES

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]		Spud Conductor: 8/4/2009	Spud Date: 8/8/2009
Project: UTAH-UINTAH		Site: NBU 1022-10B PAD	Rig Name No:
Event: COMPLETION		Start Date: 11/16/2009	End Date: 11/23/2009
Active Datum: RKB @5,462.00ft (above Mean Sea Level)		UWI: NBU 1022-10A4BS	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:00 - 18:30	11.50	COMP	36	E	P		<p>FRAC STG#2 MESAVERDE 8084'-8222' [40 HOLES]</p> <p>STG #2]WHP=2187#, BRK DN PERFS @ 3600#, INJ PSI=5300#, INJT RT=47, ISIP=2988#, FG=.80, PUMP'D 1392 BBLS SLK WTR W/ 55648# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2925, FG=.79, AR=48.2, AP=5203#, MR=51.1, MP=6254#, NPI=-63#, 40/40 CALC PERFS OPEN 100%.</p> <p>STG #3] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 8010', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 7976'-7980' 4 SPF, 90* PH, 16 HOLES. 7904'-7906' 4 SPF, 90* PH, 8 HOLES. 7860'-7864' 4 SPF, 90* PH, 16 HOLES. [40 HOLES]</p> <p>STG #3]WHP=2031#, BRK DN PERFS @ 3647#, INJ PSI=4900#, INJT RT=50, ISIP=2417#, FG=.74, PUMP'D 2500 BBLS SLK WTR W/ 101302# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2375#, FG=.73, AR=48.8, AP=4828#, MR=50.2, MP=5320#, NPI=-42#, 40/40 CALC PERFS OPEN 100%.</p> <p>STG #4] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ ', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 7758'-7762' 4 SPF, 90* PH, 16 HOLES. 7584'-7590' 4 SPF, 90* PH, 24 HOLES. [40 HOLES]</p> <p>STG #4]WHP=1222#, BRK DN PERFS @ 3476#, INJ PSI=5500#, INJT RT=50, ISIP=2183#, FG=.72, PUMP'D 1453 BBLS SLK WTR W/ 60141# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2403#, FG=.75, AR=49.2, AP=4571#, MR=50.1, MP=5650#, NPI=220#, 40/40 CALC PERFS OPEN 100%. HSM.</p>
11/19/2009	6:30 - 6:45	0.25	COMP	48		P		

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US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-10A4BS [GREEN] Spud Conductor: 8/4/2009 Spud Date: 8/8/2009

Project: UTAH-UINTAH Site: NBU 1022-10B PAD Rig Name No:

Event: COMPLETION Start Date: 11/16/2009 End Date: 11/23/2009

Active Datum: RKB @5,462.00ft (above Mean Sea Level) UWI: NBU 1022-10A4BS

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	6:45 - 18:00	11.25	COMP	36	E	P		<p>STG #5 P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 7290', PERF WASATCH USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE. 7258'-7260' 4 SPF, 90° PH, 8 HOLES. 7174'-7176' 4 SPF, 90° PH, 8 HOLES. 7124'-7126' 4 SPF, 90° PH, 8 HOLES. 7076'-7080' 4 SPF, 90° PH, 16 HOLES. [40 HOLES]</p> <p>STG #5]WHP=375#, BRK DN PERFS @ 2941#, INJ PSI=4600#, INJT RT=52, ISIP=1592#, FG=.65, PUMP'D 1253 BBLS SLK WTR W/ 51708# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2600#, FG=.80, AR=49.1, AP=4171#, MR=51.4, MP=4776#, NPI=1008#, 40/40 CALC PERFS OPEN 100%.</p> <p>STG #6] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 6975', PERF WASATCH USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE. 6943'-6945' 4 SPF, 90° PH, 8 HOLES. 6902'-6904' 4 SPF, 90° PH, 8 HOLES. 6897'-6881' 4 SPF, 90° PH, 8 HOLES. 6848'-6850' 4 SPF, 90° PH, 8 HOLES. 6806'-6808' 4 SPF, 90° PH, 8 HOLES. [40 HOLES]</p> <p>STG #6]WHP=923#, BRK DN PERFS @ 2925#, INJ PSI=4800#, INJT RT=51, ISIP=1778#, FG=.69, PUMP'D 1859 BBLS SLK WTR W/ 74137# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2561#, FG=.80, AR=51.3, AP=4428#, MR=52.6, MP=4992#, NPI=783#, 40/40 CALC PERFS OPEN 100%.</p> <p>P/U RIH W/ HALIBURTON 8K CBP & SET @ 6756' FOR TOP KILL. SWI. JSA- RDSU/ RUSU.</p> <p>RDSU FROM 10B4BS. MOVE OVER AND RUSU ON 10A4BS. (HAD TO INSTALL 2 ANCHORS). ND FRAC VALVES. NU BOP. RU FLOOR AND TBG EQUIP. SPOT IN TBG. MU 3-7/8" HURRICANE MILL, POBS AND 1.87" XN NIPPLE AND RIH AS MEAS AND PU 2-3/8" L-80 TBG. TAG AT 6729' W/ 212-JTS IN. RU PWR SWIVEL. FILL HOLE AND P-TEST TO 3000 PSI. GOOD. EST CIRC AND START D/O PLUGS.</p> <p>#1- C/O 27' SAND TO CBP AT 6756'. D/O IN 10 MIN. 25# INC. RIH. #2- C/O 76' SAND TO CBP AT 6975'. D/O IN 10 MIN. 25# INC. RIH. #3- C/O 116' SAND TO CBP AT 7290'. D/O IN 25 MIN. 600# INC. (PLUG PUSHED UPHOLE. LET EQUALIZE TO FIN D/O PLUG)</p> <p>CIRC AND FLOW CLEAN. DRAIN EQUIP. SHUT WELL IN. EOT AT 7318' W/ 230-JTS IN. SDFN JSA- ICE PLUGS. D/O PLUGS. SYM OPS.</p>
11/22/2009	6:45 - 7:00	0.25	COMP	48		P		
	7:00 - 18:00	11.00	COMP	31	I	P		
11/23/2009	6:45 - 7:00	0.25	COMP	48		P		

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US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]		Spud Conductor: 8/4/2009	Spud Date: 8/8/2009
Project: UTAH-UINTAH		Site: NBU 1022-10B PAD	Rig Name No:
Event: COMPLETION		Start Date: 11/16/2009	End Date: 11/23/2009
Active Datum: RKB @5,462.00ft (above Mean Sea Level)		UWI: NBU 1022-10A4BS	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:00 - 17:00	10.00	COMP	44	C	P		<p>SITP 0, SICP 2200. BLOW DOWN CSG TO PIT. OPEN WELL AND RIH AS CONT D/O PLUGS.</p> <p>#4- C/O 40' SAND TO CBP AT 7792'. D/O IN 20 MIN. 150# INC. RIH.</p> <p>#5- C/O 27' SAND TO CBP AT 8010'. D/O IN 10 MIN. 100# INC. RIH.</p> <p>#6- C/O 22' SAND TO CBP AT 8252'. D/O IN MIN. 100# INC. RIH</p> <p>PBTD- C/O 54' SAND TO PBTD AT 8654' W/ 272 JTS IN. (58' RATHOLE).</p> <p>CIRC CLEAN. RD PWR SWIVEL. POOH AS LD 19 JTS. PU 7" 5K CAMERON HANGER. LUB IN, FLUSH BOWL AND LAND 253-JTS 2-3/8" L-80 W/ EOT AT 8059.80'. DROP BALL. RD FLOOR. ND BOP. NU WH. PMP DOWN TBG AND RELEASE POBS AT 1300#. SHUT WELL IN FOR 30 MIN. HOOK UP FLOW LINE. RACK OUT EQUIP. RDSU. TURN WELL OVER TO FLOW BACK CREW. SICP 2000, SITP 500. START TO FLOW WELL TO BACK TANK- TANK WASHED OUT. MOVE RIG TO NBU 1022-8IT AND RUSU.</p> <p>TBG DETAIL KB 13.00 316-JTS DELIVERED</p> <p>7" 5K CAMERON HANGER 1.00 63-JTS RETURNED</p> <p>253-JTS 2-3/8" L-80 TBG 8043.60 BBL</p> <p>PMP 8759</p> <p>1.87" XN (FE) 2.20 BBL</p> <p>RCVR 2125</p> <p>EOT 8059.80 BBL LTR</p> <p>6634</p> <p>7 AM FLBK REPORT: CP 2800#, TP 1900#, 20/64" CK, 40 BWPH, HEAVY SAND, MEDIUM GAS</p> <p>TTL BBLs RECOVERED: 2915</p> <p>BBLs LEFT TO RECOVER: 5844</p> <p>WELL TURNED TO SALE @ 1400 HR ON 11/24/09</p> <p>- FTP 2150#, CP 3200#, 3.8 MCFD, 45 BWPD, 20/64 CK</p> <p>7 AM FLBK REPORT: CP 2650#, TP 1825#, 20/64" CK, 30 BWPH, HEAVY SAND, - GAS</p> <p>TTL BBLs RECOVERED: 3830</p> <p>BBLs LEFT TO RECOVER: 4929</p>
11/24/2009	7:00 -			33	A			
	14:00 -		PROD	50				
11/25/2009	7:00 -			33	A			

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STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UO 01197A
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 1022-10A4BS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1067 FNL 1463 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 10 Township: 10.0S Range: 22.0E Meridian: S		9. API NUMBER: 43047503610000
PHONE NUMBER: 720 929-6515 Ext		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH

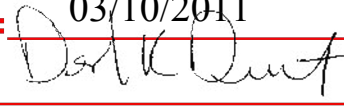
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 3/9/2011 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input checked="" type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The operator requests approval to conduct wellhead/casing repair operations on the subject well location. Please find the attached procedures for the proposed repair work on the subject well location.

Approved by the
Utah Division of
Oil, Gas and Mining

Date: 03/10/2011
By: 

NAME (PLEASE PRINT) Gina Becker	PHONE NUMBER 720 929-6086	TITLE Regulatory Analyst II
SIGNATURE N/A		DATE 3/9/2011

WORKORDER #: 88122757

3/1/11

Name: NBU 1022-10A4BS - 1022-10B PAD

Surface Location: NWNE SEC.10, T10S, R22E
Uintah County, UT

API: 4304750361 **LEASE#:** UO 01197 A

ELEVATIONS: 5058' GL 5072' KB

TOTAL DEPTH: 8725' **PBTD:** 8655'

SURFACE CASING: 9 5/8", 36# J-55 @ 2048'

PRODUCTION CASING: 4 1/2", 11.6#, I-80 @ 8700'
TOC @ ~128' per CBL

PERFORATIONS: Mesaverde 6806' - 8596'

Tubular/Borehole	Drift inches	Collapse psi	Burst psi	Capacities		
				Gal./ft.	Cuft/ft.	Bbl./ft.
2.375" 4.7# J-55 tbg.	1.901	8100	7700	0.1624	0.02173	0.00387
4.5" 11.6# I-80	3.875	6350	7780	0.6528	0.0872	0.01554
9.625" 36# J-55	8.921	2020	3520	3.247	0.434	0.0773
Annular Capacities						
2.375" tbg. X 4 1/2" 11.6# csg				0.4227	0.0565	0.01006

GEOLOGICAL MARKERS, TOPS:

1217' Green River
1924' Mahogany
4155' Wasatch
6309' Mesaverde

NBU 1022-10A4BS – WELLHEAD REPLACEMENT PROCEDURE

PREP-WORK PRIOR TO MIRU:

1. Dig out down to the 2" surface casing valve or to the valve on the riser off the surface casing.
2. Install a tee with 2 valves, with a pressure gauge and sensor on one valve.
3. Open casing valve and record pressures.
4. Install nipple and steel hose on the other valve, the relief valve,. Do not use hammer unions. No impact equipment or tools to be used for any of this installation. Extend hose and hard piping to a downwind location at least 100' from the wellhead. Consider installing a manifold so that vent area could be in two locations approx. 90 degrees apart from the wellhead.
5. Open the relief valve and blow well down to the atmosphere.
6. Make a determination of amount of gas flow, either by installation of a choke nipple, bucket test or other.
7. Shut well in. Observe for rate of build-up by utilizing sensor data. Do not build-up for more than 24 hours. Vent gas through the vent line and leave open to the atmosphere.

WORKOVER PROCEDURE:

1. MIRU workover rig.
2. Kill well with 10# brine / KCL (dictated by well pressure).
3. Remove tree, install double BOP with blind and 2 3/8" pipe rams, with accumulator closing unit and manual back-ups. Function test BOP system.
4. POOH w/ tubing laying down extra tubing.
5. Rig up wireline service. RIH and set CBP @ ~6756'. Dump bail 4 sx cement on top of plug. POOH and RD wireline service. TIH w/ tubing and seating nipple. Land tubing ±60' above cement. RDMO.
6. Monitor well pressures. If surface casing is dead. MIRU. ND WH and NU BOP. POOH w/ tubing.
7. Depending on conditions at wellsite, continue with either CUT/PATCH Procedure or BACK-OFF Procedure.

CUT/PATCH PROCEDURE:

1. PU internal casing cutters and RIH. Cut casing at +/- 30' from surface.
2. POOH, LD cutters and casing.
3. PU 7 3/8" overshoot with 4 1/2" right hand standard wicker grapple, 1 - 4 3/4" drill collar with 3 1/2" IF threads, pup joint, manual bumper sub, and crossovers. If casing cut is deeper than ±30' utilize >7000 ft-lb torque pipe as needed. Pull a minimum of 10,000# to keep grapple engaged if cement top is high (<~900'). If cement top is low (>~900'), more weight will be required to put casing in neutral. Torque casing string to ±7000 ft-lbs, count number of turns to make-up, and document in the daily report. Ensure that tongs are safely anchored to rig and that all personnel are at a safe working distance from the tongs during torque-up and torque release. After initial make-up, place pipe torque to neutral and mark pipe. Place ±7000 ft-lbs on casing a second time, count turns, then return pipe torque to neutral and count turns. Repeat if torque-up turns do not equal torque release turns. Once torque-in equals torque-out, release overshoot, POOH, and lay down.
4. TIH w/ skirted mill and dress off the fish top for approximately 1/2 hour. TOO H.
5. PU & RIH w/ 4 1/2" 10k external casing patch on 4 1/2" P-110 casing. Ensure that sliding sleeve assembly shifts ±3' and casing tags no-go portion of patch. NOTE: Shear pins will shear at 3500 to 4500 lbs.
6. Latch fish, PU to 100,000# tension. RU B&C. Cycle pressure test to 7,000# / 9,000# psi.
7. Install slips. Land casing w/ 80,000# tension.
8. Cut-off and dress 4 1/2" casing stub.
9. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~6706'. Clean out to PBTD (8655').
10. POOH, land tbg and pump off POBS.
11. NUWH, RDMO. Turn well over to production ops.

BACK-OFF PROCEDURE:

1. PU internal casing cutters and RIH. Cut casing at +/- 6' from surface.
2. POOH, LD cutters and casing.
3. PU 4 1/2" overshoot. RIH, latch fish. Pick string weight to neutral.
4. MIRU casing crew and wireline services. RIH and shoot string shot at casing collar @ ± 46'.
5. Back-off casing, POOH.

6. PU new casing joint with buttress threads and entry guide and RIH. Tag casing top. Thread into casing and torque up to ± 7000 ft-lbs, count number of additional turns to make-up, and document in the daily report. Ensure that tongs are safely anchored to rig and that all personnel are at a safe working distance from the tongs during torque-up and torque release. After initial make-up, place pipe torque to neutral and mark pipe. Place ± 7000 ft-lbs on casing a second time, count turns, then return pipe torque to neutral and count turns. Repeat if torque-up turns do not equal torque release turns. Once torque-in equals torque-out go to step 7.
7. PU 100,000# tension string weight. RU B&C. Cycle pressure test to 7,000# / 9,000# psi.
8. Install slips. Land casing w/ 80,000# tension.
9. Cut-off and dress 4 1/2" casing stub.
10. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~6706'. Clean out to PBTD (8655').
11. POOH, land tbg and pump off POBS.
12. NUWH, RDMO. Turn well over to production ops.



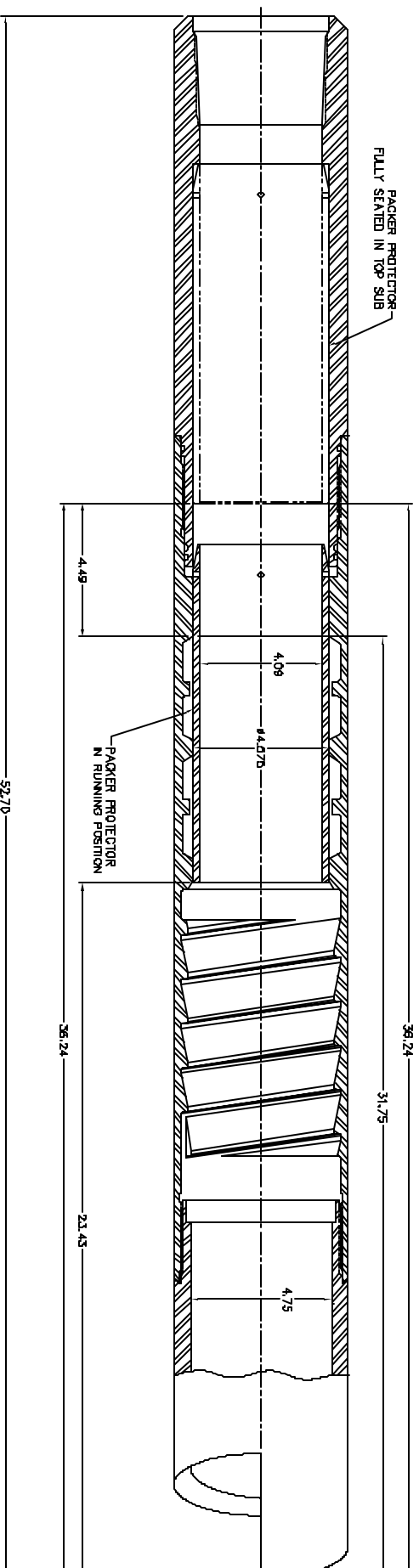
Logan High Pressure Casing Patches Assembly Procedure

All parts should be thoroughly greased before being assembled.

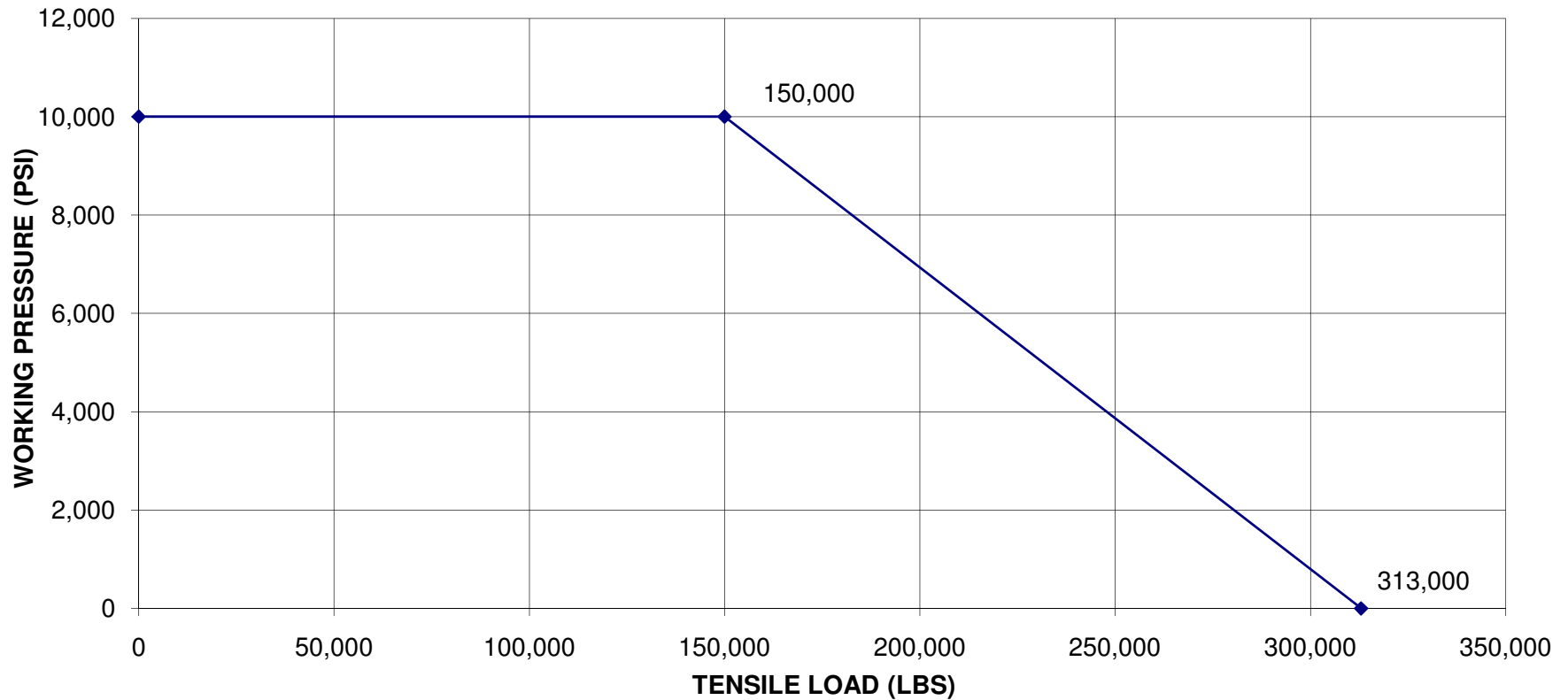
1. Install all four Logan Type "L" Packers in the spaces provided in the Casing Patch Bowl. Refer to diagram provided for proper installation.
2. Install Packer Protector from the Basket Grapple end of the Bowl. The beveled end of the Packer Protector goes in first. Carefully push the Packer Protector through the four Type "L" Packers.
3. Align Shear Pin Holes in Packer Protector so that the holes have just passed into the counter bore at the Top Sub end, refer to diagram. The Packer Protector is provided with four Shear Pin Holes. Use only two holes, 180 degrees apart and install the pins.
4. Screw the Basket Grapple in from the lower end of the Bowl, using left-hand rotation. The Tang Slot in the Basket Grapple must land in line with the slot in the Bowl.
5. Insert the Basket Grapple Control into the end of the Bowl. Align Tang on the Basket Grapple Control with the Tang Slot of the Bowl and Basket Grapple. This secures the Bowl and the Basket Grapple together.
6. Install the Cutlipped Guide into the lower end of the Bowl.
7. Install O-Rings on the two five-foot long Extensions. Screw the first Extension into the top end of the Bowl. Screw the second Extension into the top end of the first Extension.
8. Install O-Ring on Top Sub. Screw Top Sub into top end of second Extension.

Follow recommended Make-Up Torque as provided in chart.

510L-005-001 4-1/2" LOGAN HP CASING PATCH



**STRENGTH DATA FOR LOGAN 5.88" OD "L" TYPE CSG PATCH
4-1/2 CASING, 10K PSI MAX WP 125K YIELD MAT'L
LOGAN ASSEMBLY NO. 510L-005 -000**



COLLAPSE PRESSURE:
11,222 PSI @ 0 TENSILE
8,634 PSI @ 220K TENSILE

Tensile Strength @ Yield:
Tensile Strength w/ 0 Int. Press.= 472,791lbs.
Tensile Strength w/ 10K Int. Press.= 313,748lbs.

DATA BY SLS 11/16/2009

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: KERR-McGEE OIL & GAS ONSHORE, L.P.

Well Name: NBU 1022-10A4BS

Api No: 43-047-50361 Lease Type: STATE

Section 10 Township 10S Range 22E County UINTAH

Drilling Contractor PETE MARTIN DRLG RIG # BUCKET

SPUDDED:

Date 08/04/2009

Time 2:30 PM

How DRY

Drilling will Commence: _____

Reported by JAMES GOBER

Telephone # (435) 828-7024

Date 08/04/2009 Signed CHD

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY ACTION FORM

Operator: KERR McGEE OIL & GAS ONSHORE LP
Address: P.O. Box 173779
city DENVER
state CO zip 80217

Operator Account Number: N 2995
Phone Number: (720) 929-6100

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750361	NBU 1022-10A4BS		NWNE	10	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
<u>B</u>	99999	<u>2900</u>	8/4/2009		<u>8/13/09</u>		
Comments: MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 08/04/2009 AT 14:30 HRS. <u>BHL = NENE</u>							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

ACTION CODES:

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

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AUG 05 2009

ANDY LYTLE

Name (Please Print)

Signature

REGULATORY ANALYST

Title

8/5/2009

Date

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

AMENDED REPORT ☐ FORM 8
(highlight changes)

5. LEASE DESIGNATION AND SERIAL NUMBER:
UO-01197A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT or CA AGREEMENT NAME

8. WELL NAME and NUMBER:
NBU 1022-10A4BS

9. API NUMBER:
4304750361

10. FIELD AND POOL, OR WILDCAT
NATURAL BUTTES

11. QTR/QTR, SECTION, TOWNSHIP, RANGE,
MERIDIAN:
NWNE 10 10S 22E

12. COUNTY
UINTAH

13. STATE
UTAH

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ OTHER

b. TYPE OF WORK: NEW WELL ☒ HORIZ. LATS. ☐ DEEP-EN ☐ RE-ENTRY ☐ DIFF. RESVR. ☐ OTHER

2. NAME OF OPERATOR:
KERR MCGEE OIL & GAS ONSHORE LP

3. ADDRESS OF OPERATOR:
P.O. BOX 173779 CITY DENVER STATE CO ZIP 80217

PHONE NUMBER:
(720) 929-6100

4. LOCATION OF WELL (FOOTAGES)

AT SURFACE: NWNE 1067 FNL & 1463 FEL

AT TOP PRODUCING INTERVAL REPORTED BELOW: NENE 790 FNL & 628 FEL SEC.10-10S-22E

AT TOTAL DEPTH: NENE 804 FNL & 622 FEL SEC.10-10S-22E

per HSM review

14. DATE SPUDDED: 8/4/2009

15. DATE T.D. REACHED: 9/4/2009

16. DATE COMPLETED: 11/24/2009

ABANDONED ☐ READY TO PRODUCE ☒

17. ELEVATIONS (DF, RKB, RT, GL):
5458' GL

18. TOTAL DEPTH: MD 8,725
TVD 8,549

19. PLUG BACK T.D.: MD 8,655
TVD 7,811

20. IF MULTIPLE COMPLETIONS, HOW MANY? *

21. DEPTH BRIDGE MD
PLUG SET: TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)

ACOUSTIC CLB-CCL/GR-CHI TRIPLE COMBO

23.

WAS WELL CORED? NO ☒ YES ☐ (Submit analysis)
WAS DST RUN? NO ☒ YES ☐ (Submit report)
DIRECTIONAL SURVEY? NO ☐ YES ☒ (Submit copy)

24. CASING AND LINER RECORD (Report all strings set in well)

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#		40		28			
12 1/4"	9 5/8 J-55	36#		2,048		390			
7 7/8"	4 1/2 I-80	11.6#		8,700		1850			

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	8,059							

26. PRODUCING INTERVALS

(W.S.MUD) - Unit PA

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A) MESAVERDE	6,806	8,596			6,806 8,596	0.36	240	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(B)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

27. PERFORATION RECORD

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
6,806'-8,596'	PMP 8,759 BBLs SLICK H2O & 393,083 LBS 30/50 SD.

29. ENCLOSED ATTACHMENTS:

☐ ELECTRICAL/MECHANICAL LOGS
☐ SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION

☐ GEOLOGIC REPORT
☐ CORE ANALYSIS
☐ DST REPORT
☐ OTHER:

☒ DIRECTIONAL SURVEY

30. WELL STATUS:

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31. INITIAL PRODUCTION

INTERVAL A (As shown in item #26)

DATE FIRST PRODUCED: 11/24/2009		TEST DATE: 11/27/2009		HOURS TESTED: 24		TEST PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 2,536	WATER – BBL: 480	PROD. METHOD: FLOWING
CHOKE SIZE: 20/64	TBG. PRESS. 1,750	CSG. PRESS. 2,450	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 2,536	WATER – BBL: 480	INTERVAL STATUS: PROD

INTERVAL B (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL C (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL D (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

SOLD

33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof. Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
GREEN RIVER	1,217				
MAHOGANY	1,924				
WASATCH	4,155				
MESAVERDE	6,309				

35. ADDITIONAL REMARKS (Include plugging procedure)

ATTACHED TO THIS COMPLETION REPORT IS THE CHRONOLOGICAL WELL HISTORY.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) ANDY LYTLETITLE REGULATORY ANALYSTSIGNATURE DATE 1/21/2010

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

** ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

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DIV. OF OIL, GAS & MINING

US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]	Spud Conductor: 8/4/2009	Spud Date: 8/8/2009
Project: UTAH-UINTAH	Site: NBU 1022-10B PAD	Rig Name No: ENSIGN 139/139, PROPETRO/
Event: DRILLING	Start Date: 8/7/2009	End Date: 9/5/2009
Active Datum: RKB @5,462.00ft (above Mean Sea Level)		UWI: NBU 1022-10A4BS

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
8/8/2009	6:30 - 11:00	4.50	DRLSUR	01	A	P		MOVE RIG
	11:00 - 14:00	3.00	DRLSUR	01	B	P		RIG UP
	14:00 - 16:00	2.00	DRLSUR	02	A	P		AIR HAMMER TO SPUD 12.25 HOLE 40 TO 190
	16:00 - 17:00	1.00	DRLSUR	06	A	P		TOH W/ AIR HAMMER DRILL F/ 40 TO 190'
	17:00 - 18:00	1.00	DRLSUR	06	A	P		P/U MWD TOOLS
	18:00 - 18:30	0.50	DRLSUR	06	A	P		TIHW MWD TOOLS
	18:30 - 0:00	5.50	DRLSUR	02	A	P		DRILL F/190 TO 790'
8/9/2009	0:00 - 12:30	12.50	DRLSUR	02	B	P		DRILL F/ 790 TO 2080'
	12:30 - 13:00	0.50	DRLSUR	05	A	P		CIRC. HOLE CLEAN
	13:00 - 16:30	3.50	DRLSUR	06	A	P		TOH TO RUN 9 5/8 CASING
	16:30 - 18:30	2.00	DRLSUR	12	C	P		RIG UP RUN 47 JTS 9 5/8 # 36 J-55 LT&C SHOE 2053' BAFF @ 2011'
	18:30 - 19:00	0.50	DRLSUR	05	A	P		CIRC 9 5/8 CSG.
	19:00 - 21:00	2.00	DRLSUR	12	E	P		RIG DOWN RIG RELEASED @ 19:00 08/09/2009 CMT TAIL 1# 15.8 YIELD 1.15 290 SX CMT 35% EXCESS W/ 2% CALC2, 1/4 LBPER SX FLOW SEAL, DISPLACED W/XXX BBLS BUMPED PLUG ,FLOATS HELD, NO CMT TO SURFACE, TOP OUT W/ 100 SX 15.8 YIELD 1.15
8/25/2009	21:00 - 0:00	3.00	DRLPRO	01	A	P		RIG DOWN WILL BE MOVING THIS AM W/ KERR TRUCKING
8/26/2009	0:00 - 8:00	8.00	DRLPRO	01	E	P		RIG DOWN ROT TOOLS
	8:00 - 20:00	12.00	DRLPRO	01	A	P		LOWER DERRICK & R/D DERRICK & MOVE RIG & 100% MOVED & 40% SET IN - 11 TRUCK TOTAL - 6 HAUL TRUCK - 3 BED TRUCKS - 2 GIN TRUCK - 2 GIN FORKLIFTS.
8/27/2009	20:00 - 0:00	4.00	DRLPRO	01	B	P		IDLE
	0:00 - 6:00	6.00	DRLPRO	01	B	P		IDLE
	6:00 - 12:30	6.50	DRLPRO	01	B	P		FINSH SET IN RIG _ TRUCKS OFF LOCTION @ 12.30
	12:30 - 0:00	11.50	DRLPRO	01	B	P		RURT - RAISE DERRICK @ 16:00 - CONTINUE RURT - (NOTE : REPLACED COMM CABLE TO IRON DERRICK HAND)
8/28/2009	0:00 - 8:30	8.50	DRLPRO	01	B	P		RURT -
	8:30 - 14:00	5.50	DRLPRO	15	A	P		TEST B.O.P'S - TOP DRIVE VALUES - PIPE RAMS - BLIND RAMS - 4" - 2" VALVES - HCR - CKOKE MAINFOLD - SAFETY VALUES - 250 LOW - 5000 HIGH - ANNULAR 250 LOW - 2500 HIGH - SURFACE CASING 1500 PSI
	14:00 - 14:30	0.50	DRLPRO	14	B	P		INSTALL WEAR BUSHING
	14:30 - 15:30	1.00	DRLPRO	23		P		PRE SPUD RIG INSPECTION
	15:30 - 16:00	0.50	DRLPRO	07	A	P		SER RIGS TOP DRIVE
	16:00 - 0:00	8.00	DRLPRO	06	A	P		FINSH LOADING RACK & STRAP D.P. & P/U DIR TOOLS & SCRIBE - THE BOTTOM CONNECTOR IN THE SEAT TOOLS ON MWD WAS WORE BUT NEW IT WAS MOVING 20 - 40 DEGREES C/O BOTTOM TOOL - CONT. TO P/U BHA & D.P.
								TAG CEMENT @ 1971 & DRILL CEMENT & F.E
								DRILL-SLIDE F/ 2080 TO 3123 - 1043' @ 80.2 FPH W/ 8.4 MUD WT - VIS 26 - RPM 45 MRPM 112 - WOB 12/16 - TQ - 8/6 - GPM 487
								SER RIG
8/29/2009	0:00 - 1:00	1.00	DRLPRO	02	F	P		
	1:00 - 14:00	13.00	DRLPRO	02	D	P		
	14:00 - 14:30	0.50	DRLPRO	07	A	P		

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]		Spud Conductor: 8/4/2009		Spud Date: 8/8/2009	
Project: UTAH-UINTAH		Site: NBU 1022-10B PAD		Rig Name No: ENSIGN 139/139, PROPETRO/	
Event: DRILLING		Start Date: 8/7/2009		End Date: 9/5/2009	
Active Datum: RKB @5,462.00ft (above Mean Sea Level)			UWI: NBU 1022-10A4BS		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	14:30 - 0:00	9.50	DRLPRO	02	D	P		DRILL - SLIDE F/ 3123 TO 4000' - 877" @ 92.3 FPH W/ 8.3 PPG MUD WT - VIS 26 - RPM 45 - MRPM 112 - WOB 12/16 - TQ 9/7 - GPM 487
8/30/2009	0:00 - 12:30	12.50	DRLPRO	02	D	P		DRILL-SLIDE F/ 4000 TO 5206 - 1206' @ 96.48 FPH W/ 8.4 MUD WT VIS 27 - RPM 45 - MRPM - 112 - WOB 14/16 - TQ 10/7 - GPM 487
	12:30 - 13:00	0.50	DRLPRO	07	A	P		SER RIG
	13:00 - 0:00	11.00	DRLPRO	02	D	P		DRILL - SLIDE F/ 5206 TO 6040 - 834' @ 75.8 FPH W/ 8.4 MUD WT VIS 27 - RPM 45 - MRPM - 112 - WOB 14/16 - TQ 10/7 - GPM 487 - STARTED LIGHT UP ON SYSTEM @ 6000
8/31/2009	0:00 - 12:00	12.00	DRLPRO	02	D	P		DRILL - SLIDE F/ 6040 TO 6428 - 388' @ 32.3 FPH W/ 9.0 PPG MUD WT VIS 36 - RPM 45 - MRPM 112 - WOB 16/20 - TQ 13/9 - GPM 487 - WELL DIR IS TRY TO GO TO THE NORTH EAST
	12:00 - 12:30	0.50	DRLPRO	07	A	P		SER RIG
	12:30 - 0:00	11.50	DRLPRO	02	D	P		DRILL-SLIDE F/ 6428 TO 6840 - 412' @ 35.8 FPH W/ 9.8 PPG MUD WT VIS 36 - RPM 45 MRPM 112 - WOB 18/20 - TQ- 13/9 - GPM 487 - WELL SEEPING FLUID @ 6930 LOST 100 BBL PUMP LCM SWEEP - OLD WELL NBU 231 PREFORATED F/ 4964' TO 7012'
9/1/2009	0:00 - 13:00	13.00	DRLPRO	02	D	P		DRILL-SLIDE F/ 6840 TO 7370 - 530' @ 40.7 FPH W/ 10.5 PPG MUD WT VIS 38 - RPM 45 - MRPM 112 - WOB 18/20 - TQ 16/13 - GPM 487
	13:00 - 13:30	0.50	DRLPRO	07	A	P		SER RIG
	13:30 - 0:00	10.50	DRLPRO	02	D	P		DRILL F/ 7370 TO 7683 - 313' @ 29.8 FPH W/ 11.0 PPG MUD WT VIS 39 - LCM @ 3% - RPM 45 - MRPM 112 - WOB 18/20 - TQ 16/13 - GPM 487
9/2/2009	0:00 - 13:00	13.00	DRLPRO	02	D	P		DRILL-SLIDE F/ 7683 TO 8057 - 374' @ 28.7 FPH W/ 11.5 MUD WT VIS 40 - 3% LCM - RPM 45 -MRPM 112 - WOB 20/23 - TQ 18/15 - GPM 487 - LAST SURVEY 8002' INC .17 - AZM 89.69
	13:00 - 14:00	1.00	DRLPRO	06	A	P		PUMP 4 STANDS & PUMP SLUG ON 5 STAND & RUN INTO IRON ROUGH NECK W/ D.P ELEVATORS.
	14:00 - 18:30	4.50	DRLPRO	08	A	Z		REPAIR HOSES ON ELEVATORS & THE RON ROUGH NECK WAS PARK IN THE CENTER WHEN THE ELEVATORS HIT POWER SHOE THE IRON DERRICK DRIFT OUT PAST CENTER,(TORE LOSE A IRON PLATE AT THE TOP OF POWER SHOE WHERE THE PIN IS THAT HOLDS THE POWER SHOE AT THE BOTTOM OF CYL. AT THE SCOPING TUBE.
	18:30 - 0:00	5.50	DRLPRO	06	A	P		T.F.N.B (L.D.D.P) - L/D 10 JTS MORE PUMPING & ROTATING & PUMP DRY JOB & CONT L.D.D.P
9/3/2009	0:00 - 5:30	5.50	DRLPRO	06	A	P		T.F.N.B (L.D.D.P & BHA
	5:30 - 7:00	1.50	DRLPRO	06	A	P		L/D DIR TOOLS & BIT & MOTOR
	7:00 - 8:00	1.00	DRLPRO	06	A	P		LAY DOWN 4 STANDS IN DERRICK
	8:00 - 9:30	1.50	DRLPRO	06	A	P		P/U BIT - MOTOR - MONEL DC. & TEST MOTOR
	9:30 - 18:00	8.50	DRLPRO	06	A	P		P/U BHA & D.P & T.I.H
	18:00 - 18:30	0.50	DRLPRO	03	E	P		WASH 90' TO BOTTOM
	18:30 - 0:00	5.50	DRLPRO	02	D	P		DRILL F/ 8057 TO 8365 - 308' @ 56.0 FPH W/ 11.8 PPG MUD WT VIS 42 - LCM 3% - RPM 45 - MRPM 68 - WOB 16/18 - TQ 14/11 - GPM 487
9/4/2009	0:00 - 4:30	4.50	DRLPRO	02	D	P		DRILL F/ 8365 TO 8667 - 302' @ 67.1 FPH W/ 11.8 PPG NUD WT VIS 43 - 5% LCM - RPM 45 - MRPM 68 -WOB 16/18 - TQ 18/15 - GPM 470
	4:30 - 6:00	1.50	DRLPRO	08	A	P		REPAIR FAN BELTS ON #1 GEN SET

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]	Spud Conductor: 8/4/2009	Spud Date: 8/8/2009
Project: UTAH-UINTAH	Site: NBU 1022-10B PAD	Rig Name No: ENSIGN 139/139, PROPETRO/
Event: DRILLING	Start Date: 8/7/2009	End Date: 9/5/2009
Active Datum: RKB @5,462.00ft (above Mean Sea Level)		UWI: NBU 1022-10A4BS

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
9/5/2009	6:00 - 7:00	1.00	DRLPRO	02	D	P		DRILL F/ 8667 TO 8725 - 58' @ 58.0 FPH W/ 12.0 PPG MUD WT VIS 43 - LCM 5% - RPM 45 - MRPM 68 - WOB 16/18 - TQ 18/15 - GPM 470 - TD WELL @ 8725 - 07:00 AM ON 9/4/2009
	7:00 - 8:30	1.50	DRLPRO	05	C	P		CIRC BTM UP
	8:30 - 18:00	9.50	DRLPRO	06	D	P		DROP SURVEY TOOL & T.O.H - L.D.D.P (PUMP - ROT OUT 10 JTS & PUMP SLUG & CONT. L.D.D.P & BHA TO RUN CASING.
	18:00 - 18:30	0.50	DRLPRO	14	B	P		PULL WEAR BUSHING & M/U CIRC SUB TO TOP DRIVE.
	18:30 - 0:00	5.50	DRLPRO	12	C	P		HELD SAFETY MEETING & R/U KIMZEY CASING & RUN 4 1/2 PRODUCTION STRING
	0:00 - 0:30	0.50	DRLPRO	14	A	P		NIPPLE DOWN & TRANS 700 BBLS MUD TO SECONDARY TANKS & CLEAN MUD TANKS & RELEASED RIG @ 08:00 AM ON 09/05/2009
	0:30 - 1:30	1.00	DRLPRO	12	C	P		RUN 4 1/2 PROD. STRING SET @ SHOE 8,690 - FLOAT COLLAR 8,645 RUN 198 JTS PLUS MARKER. @ 8,703
	1:30 - 3:00	1.50	DRLPRO	05	A	P		CIRC BTM UP
	3:00 - 6:30	3.50	DRLPRO	12	E	P		HELD SAFETY MEETING & R/U HALLIBURTON CEMENT HEAD & TEST LINES 5,000 PSI CEMENT W/ 40 BBLS WATER - F/ LEAD 500 SKS @ 12.0 PPG YIELD 2.25 F/ TAIL 1350 SKS @ 14.3 PPG YIELD 1.25 - DROP PLUG & DISPLACED W/ 134.5 BBLS WATER & BUMP PLUG W/ FINAL CIRC OF 2200 W/ 500 OVER - HAD FULL RETURNS & GOT BACK 40 BBLS WATER TURNING GRAY WHEN BUMP PLUG & DOWN 05:45 AM - PLUG HELD & R/D HALLIBURTON
	6:30 - 8:00	1.50	DRLPRO	14	B	P		AFTER CEMENTING COULDN'T LAND CASING HANGER & P/U STACK & SET SLIPS 125K
	8:00 - 12:00	4.00	DRLPRO	08	A	P		STRING WT & CUT OFF CASING & L/D LAND JT TOOK 4 HRS DOWN TIME DO TO PRIOR TRIP F/ BIT & AFTER I.D.M WAS BROKE DOWN

US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]			Spud Conductor: 8/4/2009			Spud Date: 8/8/2009			
Project: UTAH-UINTAH			Site: NBU 1022-10B PAD				Rig Name No:		
Event: COMPLETION			Start Date: 11/16/2009				End Date: 11/23/2009		
Active Datum: RKB @5,462.00ft (above Mean Sea Level)				UWI: NBU 1022-10A4BS					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation	
10/30/2009	-								
11/16/2009	7:00 - 7:15	0.25	COMP	48		P		HSM, R/U	
	7:15 - 16:30	9.25	COMP	47	A	P		MIRU SUPERIOR FRAC & SCHLUM WIRE LINE EQUIP, PREP TO FRAC. P/U RIH W/ 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 4 SPF, 90° PH, 8590'-8596' 24 HOLES. 8318'-8322' 16 HOLES. [40 HOLES]	
11/17/2009	5:30 - 6:30	1.00	COMP	48		P		CAZ BROKE DN HAD TO REPLACE STARTERSTG HSM, P/T SURFACE LINES TO 8500#	
	6:30 - 18:30	12.00	COMP	36	E	P		FRAC STG #1 MESAVERDE 8318'-8596' [40 HOLES] STG #1]WHP=1360#, BRK DN PERFS @ 3942#, INJ PSI=5000#, INJT RT=44, ISIP=2808#, FG=.76, PUMP'D 1410 BBLS SLK WTR W/ 50147# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2791, FG=.76, AR=47.3, AP=5171#, MR=48.6, MP=6080#, NPI=-17#, 40/40 CALC PERFS OPEN 100%. STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 8252', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 8218'-8222' 4 SPF, 90° PH, 16 HOLES. 8126'-8128' 4 SPF, 90° PH, 8 HOLES. 8084'-8088' 4 SPF, 90° PH, 16 HOLES. [40 HOLES]	
11/18/2009	6:30 - 7:00	0.50	COMP	48		P		HSM, P/T SURFACE LINES	

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]		Spud Conductor: 8/4/2009	Spud Date: 8/8/2009
Project: UTAH-UINTAH		Site: NBU 1022-10B PAD	Rig Name No:
Event: COMPLETION		Start Date: 11/16/2009	End Date: 11/23/2009
Active Datum: RKB @5,462.00ft (above Mean Sea Level)		UWI: NBU 1022-10A4BS	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:00 - 18:30	11.50	COMP	36	E	P		FRAC STG#2 MESAVERDE 8084'-8222' [40 HOLES] STG #2]WHP=2187#, BRK DN PERFS @ 3600#, INJ PSI=5300#, INJT RT=47, ISIP=2988#, FG=.80, PUMP'D 1392 BBLS SLK WTR W/ 55648# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2925, FG=.79, AR=48.2, AP=5203#, MR=51.1, MP=6254#, NPI=-63#, 40/40 CALC PERFS OPEN 100%. STG #3] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 8010', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 7976'-7980' 4 SPF, 90* PH, 16 HOLES. 7904'-7906' 4 SPF, 90* PH, 8 HOLES. 7860'-7864' 4 SPF, 90* PH, 16 HOLES. [40 HOLES] STG #3]WHP=2031#, BRK DN PERFS @ 3647#, INJ PSI=4900#, INJT RT=50, ISIP=2417#, FG=.74, PUMP'D 2500 BBLS SLK WTR W/ 101302# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2375#, FG=.73, AR=48.8, AP=4828#, MR=50.2, MP=5320#, NPI=-42#, 40/40 CALC PERFS OPEN 100%. STG #4] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ ', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 7758'-7762' 4 SPF, 90* PH, 16 HOLES. 7584'-7590' 4 SPF, 90* PH, 24 HOLES. [40 HOLES] STG #4]WHP=1222#, BRK DN PERFS @ 3476#, INJ PSI=5500#, INJT RT=50, ISIP=2183#, FG=.72, PUMP'D 1453 BBLS SLK WTR W/ 60141# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2403#, FG=.75, AR=49.2, AP=4571#, MR=50.1, MP=5650#, NPI=220#, 40/40 CALC PERFS OPEN 100%. HSM.
11/19/2009	6:30 - 6:45	0.25	COMP	48		P		

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]		Spud Conductor: 8/4/2009	Spud Date: 8/8/2009
Project: UTAH-UINTAH	Site: NBU 1022-10B PAD		Rig Name No:
Event: COMPLETION	Start Date: 11/16/2009	End Date: 11/23/2009	
Active Datum: RKB @5,462.00ft (above Mean Sea Level)		UWI: NBU 1022-10A4BS	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	6:45 - 18:00	11.25	COMP	36	E	P		<p>STG #5 P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 7290', PERF WASATCH USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE. 7258'-7260' 4 SPF, 90* PH, 8 HOLES. 7174'-7176' 4 SPF, 90* PH, 8 HOLES. 7124'-7126' 4 SPF, 90* PH, 8 HOLES. 7076'-7080' 4 SPF, 90* PH, 16 HOLES. [40 HOLES]</p> <p>STG #5]WHP=375#, BRK DN PERFS @ 2941#, INJ PSI=4600#, INJT RT=52, ISIP=1592#, FG=.65, PUMP'D 1253 BBLS SLK WTR W/ 51708# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2600#, FG=.80, AR=49.1, AP=4171#, MR=51.4, MP=4776#, NPI=1008#, 40/40 CALC PERFS OPEN 100%.</p> <p>STG #6] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 6975', PERF WASATCH USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE. 6943'-6945' 4 SPF, 90* PH, 8 HOLES. 6902'-6904' 4 SPF, 90* PH, 8 HOLES. 6897'-6881' 4 SPF, 90* PH, 8 HOLES. 6848'-6850' 4 SPF, 90* PH, 8 HOLES. 6806'-6808' 4 SPF, 90* PH, 8 HOLES. [40 HOLES]</p> <p>STG #6]WHP=923#, BRK DN PERFS @ 2925#, INJ PSI=4800#, INJT RT=51, ISIP=1778#, FG=.69, PUMP'D 1859 BBLS SLK WTR W/ 74137# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2561#, FG=.80, AR=51.3, AP=4428#, MR=52.6, MP=4992#, NPI=783#, 40/40 CALC PERFS OPEN 100%.</p> <p>P/U RIH W/ HALIBURTON 8K CBP & SET @ 6756' FOR TOP KILL. SWI. JSA- RDSU/ RUSU.</p> <p>RDSU FROM 10B4BS. MOVE OVER AND RUSU ON 10A4BS. (HAD TO INSTALL 2 ANCHORS). ND FRAC VALVES. NU BOP. RU FLOOR AND TBG EQUIP. SPOT IN TBG. MU 3-7/8" HURRICANE MILL, POBS AND 1.87" XN NIPPLE AND RIH AS MEAS AND PU 2-3/8" L-80 TBG. TAG AT 6729' W/ 212-JTS IN. RU PWR SWIVEL. FILL HOLE AND P-TEST TO 3000 PSI. GOOD. EST CIRC AND START D/O PLUGS.</p> <p>#1- C/O 27' SAND TO CBP AT 6756'. D/O IN 10 MIN. 25# INC. RIH. #2- C/O 76' SAND TO CBP AT 6975'. D/O IN 10 MIN. 25# INC. RIH. #3- C/O 116' SAND TO CBP AT 7290'. D/O IN 25 MIN. 600# INC. (PLUG PUSHED UPHOLE. LET EQUALIZE TO FIN D/O PLUG)</p> <p>CIRC AND FLOW CLEAN. DRAIN EQUIP. SHUT WELL IN. EOT AT 7318' W/ 230-JTS IN. SDFN JSA- ICE PLUGS. D/O PLUGS. SYM OPS.</p>
11/22/2009	6:45 - 7:00	0.25	COMP	48		P		
	7:00 - 18:00	11.00	COMP	31	I	P		
11/23/2009	6:45 - 7:00	0.25	COMP	48		P		

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]		Spud Conductor: 8/4/2009	Spud Date: 8/8/2009
Project: UTAH-UINTAH		Site: NBU 1022-10B PAD	Rig Name No:
Event: COMPLETION		Start Date: 11/16/2009	End Date: 11/23/2009
Active Datum: RKB @5,462.00ft (above Mean Sea Level)		UWI: NBU 1022-10A4BS	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:00 - 17:00	10.00	COMP	44	C	P		<p>SITP 0, SICP 2200. BLOW DOWN CSG TO PIT. OPEN WELL AND RIH AS CONT D/O PLUGS.</p> <p>#4- C/O 40' SAND TO CBP AT 7792'. D/O IN 20 MIN. 150# INC. RIH.</p> <p>#5- C/O 27' SAND TO CBP AT 8010'. D/O IN 10 MIN. 100# INC. RIH.</p> <p>#6- C/O 22' SAND TO CBP AT 8252'. D/O IN MIN. 100# INC. RIH</p> <p>PBTD- C/O 54' SAND TO PBTD AT 8654' W/ 272 JTS IN. (58' RATHOLE).</p> <p>CIRC CLEAN. RD PWR SWIVEL. POOH AS LD 19 JTS. PU 7" 5K CAMERON HANGER. LUB IN, FLUSH BOWL AND LAND 253-JTS 2-3/8" L-80 W/ EOT AT 8059.80'. DROP BALL. RD FLOOR. ND BOP. NU WH. PMP DOWN TBG AND RELEASE POBS AT 1300#. SHUT WELL IN FOR 30 MIN. HOOK UP FLOW LINE. RACK OUT EQUIP. RDSU. TURN WELL OVER TO FLOW BACK CREW. SICP 2000, SITP 500. START TO FLOW WELL TO BACK TANK- TANK WASHED OUT. MOVE RIG TO NBU 1022-8IT AND RUSU.</p> <p>TBG DETAIL KB 13.00 316-JTS DELIVERED</p> <p>7" 5K CAMERON HANGER 1.00 63-JTS RETURNED</p> <p>253-JTS 2-3/8" L-80 TBG 8043.60 BBL</p> <p>PMP 8759</p> <p>1.87" XN (FE) 2.20 BBL</p> <p>RCVR 2125</p> <p>EOT 8059.80 BBL LTR 6634</p>
11/24/2009	7:00 -			33	A			<p>7 AM FLBK REPORT: CP 2800#, TP 1900#, 20/64" CK, 40 BWPH, HEAVY SAND, MEDIUM GAS</p> <p>TTL BBLS RECOVERED: 2915</p> <p>BBLS LEFT TO RECOVER: 5844</p>
11/25/2009	7:00 -			33	A			<p>7 AM FLBK REPORT: CP 2650#, TP 1825#, 20/64" CK, 30 BWPH, HEAVY SAND, - GAS</p> <p>TTL BBLS RECOVERED: 3830</p> <p>BBLS LEFT TO RECOVER: 4929</p>
	14:00 -		PROD	50				<p>WELL TURNED TO SALE @ 1400 HR ON 11/25/09</p> <p>- FTP 2150#, CP 3200#, 3.8 MCFD, 45 BWPD, 20/64 CK</p>
11/26/2009	7:00 -			33	A			<p>7 AM FLBK REPORT: CP 2400#, TP 1825#, 18/64" CK, 30 BWPH, MEDIUM SAND, 2575 GAS</p> <p>TTL BBLS RECOVERED: 4460</p> <p>BBLS LEFT TO RECOVER: 4299</p>
11/27/2009	7:00 -			33	A			<p>7 AM FLBK REPORT: CP 2450#, TP 1550#, 20/64" CK, 25 BWPH, MEDIUM SAND, - GAS</p> <p>TTL BBLS RECOVERED: 5075</p> <p>BBLS LEFT TO RECOVER: 3639</p>
	7:30 -		PROD	50				<p>WELL IP'D 11/27/09, 2536 MCFD, 0 BOPD, 480 BWPD, CP 2450#, FTP 1750#, CK 20/64", LP 236#, 24 HRS</p>



END OF WELL REPORT

Prepared For:

Kerr McGee Oil & Gas Onshore LP
NBU 1022-10A4BS
NBU 1022-10B Pad
Ensign 139
Uintah County, UT

Prepared By:

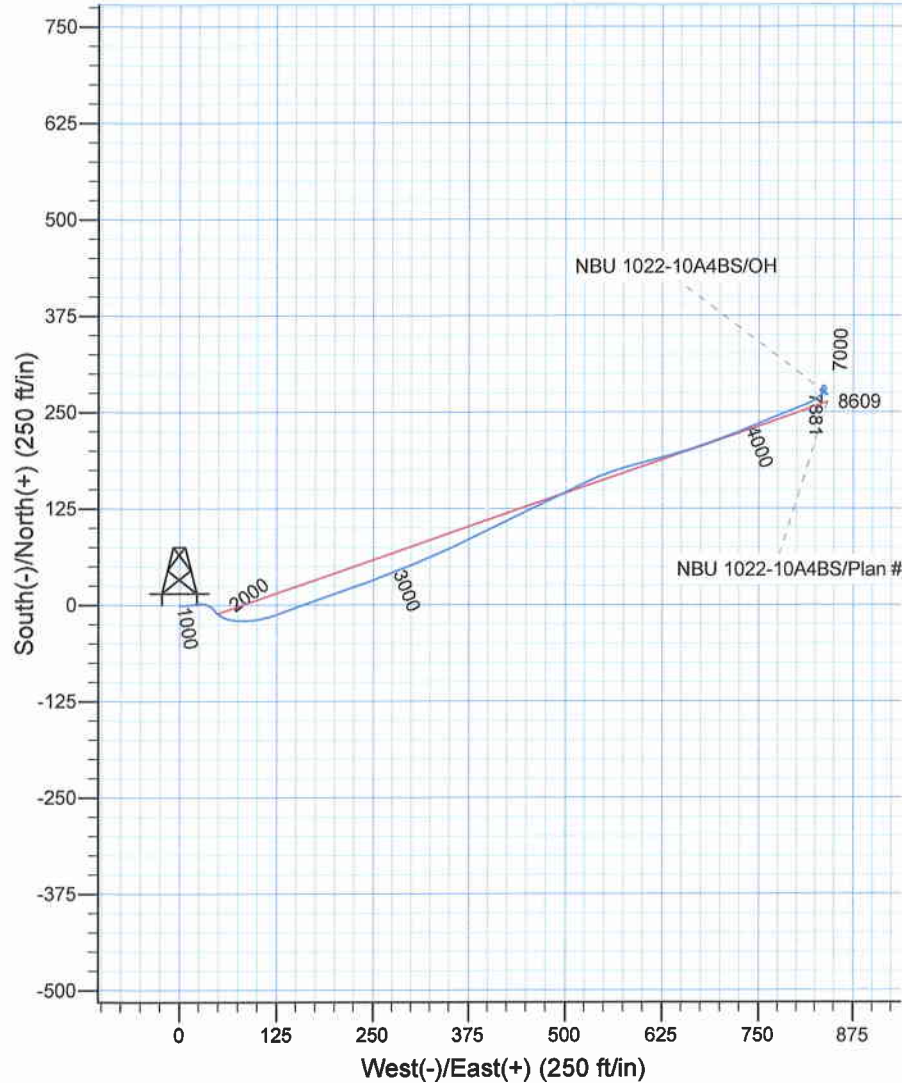
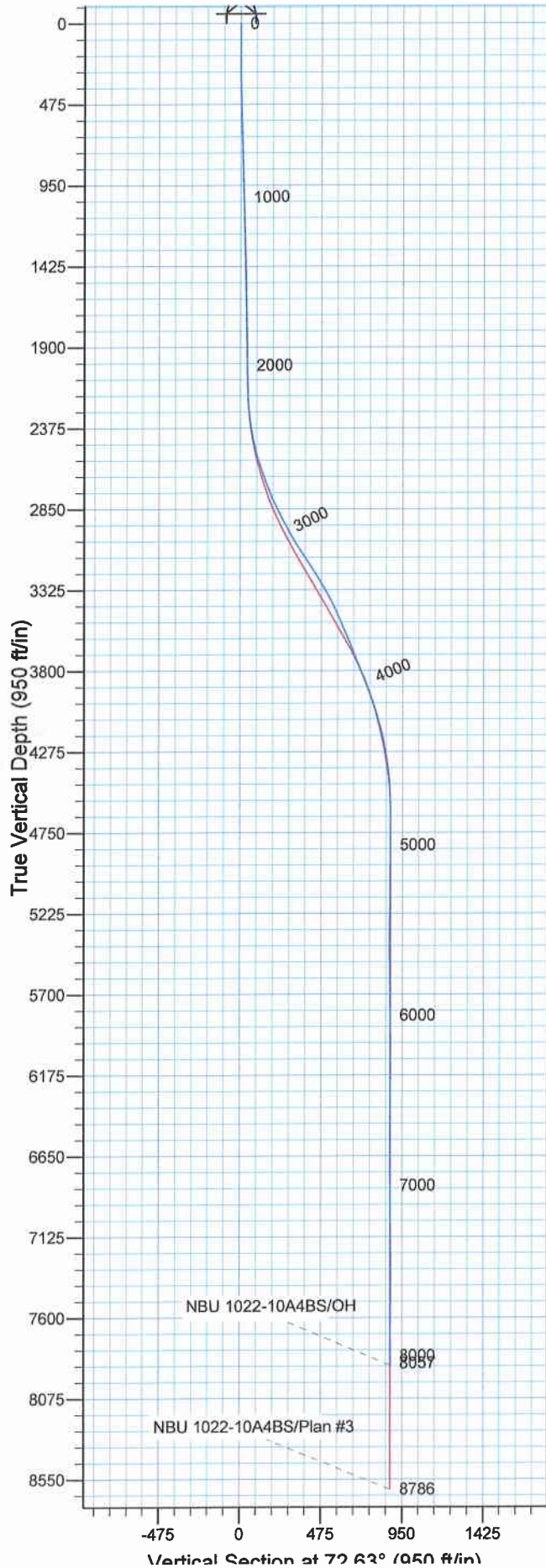
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WELL DETAILS: NBU 1022-10A4BS

Ground Level: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
 +N/-S +E/-W Northing Easting Latitude Longitude
 0.00 0.00 14518239.62 2082793.50 39° 58' 4.126 N 109° 25' 16.277 W

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well NBU 1022-10A4BS, True North
 Vertical (TVD) Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
 Section (VS) Reference: Slot - (0.00N, 0.00E)
 Measured Depth Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
 Calculation Method: Minimum Curvature
 Local North: True
 Location: Sec 10 T10S R22E

PROJECT DETAILS: Uintah County, UT UTM12

Geodetic System: Universal Transverse Mercator (US Survey Feet)
 Datum: NAD 1927 - Western US
 Ellipsoid: Clarke 1866
 Zone: Zone 12N (114 W to 108 W)

Design: OH (NBU 1022-10A4BS/OH)

Created By: Rex Hall Date: 2009-09-15

Kerr McGee Oil and Gas Onshore LP

**Uintah County, UT UTM12
NBU 1022-10B Pad
NBU 1022-10A4BS
OH**

Design: OH

Standard Survey Report

15 September, 2009

Scientific Drilling International

Survey Report

Company: Kerr McGee Oil and Gas Onshore LP
Project: Uintah County, UT UTM12
Site: NBU 1022-10B Pad
Well: NBU 1022-10A4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-10A4BS
TVD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
MD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Multi-User Db

Project	Uintah County, UT UTM12		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 - Western US		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	NBU 1022-10B Pad, Sec 10 T10S R22E			
Site Position:		Northing:	14,518,241.45 ft	Latitude: 39° 58' 4.158 N
From:	Lat/Long	Easting:	2,082,713.50 ft	Longitude: 109° 25' 17.304 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence: 1.01 °

Well	NBU 1022-10A4BS, 1067' FNL 1463' FEL			
Well Position	+N/-S	0.00 ft	Northing:	14,518,239.62 ft
	+E/-W	0.00 ft	Easting:	2,082,793.50 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft	Ground Level: 5,055.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	7/23/2009	11.26	65.91	52,539

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	72.63	

Survey Program	Date	9/15/2009			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
9.00	2,036.00	Survey #1 - Surface (OH)	MWD SDI	MWD - Standard ver 1.0.1	
2,162.00	8,057.00	Survey #2 - Production (OH)	MWD SDI	MWD - Standard ver 1.0.1	

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00
136.00	0.20	195.95	136.00	-0.21	-0.06	-0.12	0.16	0.16	0.00
206.00	0.62	127.55	206.00	-0.56	0.21	0.03	0.82	0.60	-97.71
296.00	0.61	82.42	295.99	-0.79	1.07	0.78	0.52	-0.01	-50.14
386.00	1.55	93.24	385.98	-0.80	2.76	2.39	1.06	1.04	12.02
746.00	1.86	83.46	745.82	-0.41	13.42	12.69	0.12	0.09	-2.72
836.00	1.56	79.85	835.78	-0.03	16.08	15.34	0.35	-0.33	-4.01
926.00	1.94	84.63	925.74	0.33	18.80	18.04	0.45	0.42	5.31
1,016.00	1.69	79.08	1,015.69	0.72	21.62	20.85	0.34	-0.28	-6.17
1,106.00	1.60	84.91	1,105.65	1.09	24.18	23.40	0.21	-0.10	6.48
1,196.00	1.67	81.83	1,195.62	1.39	26.73	25.92	0.12	0.08	-3.42

Scientific Drilling International

Survey Report

Company: Kerr McGee Oil and Gas Onshore LP
Project: Uintah County, UT UTM12
Site: NBU 1022-10B Pad
Well: NBU 1022-10A4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-10A4BS
TVD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
MD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Multi-User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,286.00	1.36	85.76	1,285.58	1.65	29.09	28.26	0.36	-0.34	4.37
1,376.00	1.61	110.11	1,375.56	1.29	31.34	30.30	0.75	0.28	27.06
1,466.00	1.82	101.63	1,465.52	0.57	33.93	32.55	0.37	0.23	-9.42
1,556.00	1.75	115.59	1,555.47	-0.31	36.57	34.81	0.49	-0.08	15.51
1,646.00	1.48	126.65	1,645.44	-1.60	38.74	36.50	0.46	-0.30	12.29
1,736.00	1.67	119.45	1,735.40	-2.94	40.81	38.08	0.30	0.21	-8.00
1,826.00	1.73	138.27	1,825.36	-4.59	42.86	39.53	0.62	0.07	20.91
1,916.00	1.69	140.95	1,915.32	-6.64	44.60	40.58	0.10	-0.04	2.98
2,006.00	1.74	145.29	2,005.28	-8.79	46.22	41.48	0.15	0.06	4.82
2,036.00	1.95	138.01	2,035.27	-9.55	46.82	41.83	1.05	0.70	-24.27
Last Surface Survey									
2,162.00	2.93	128.02	2,161.15	-13.12	50.79	44.55	0.84	0.78	-7.93
First SDI Production MWD Survey									
2,253.00	6.02	114.54	2,251.87	-16.54	56.96	49.43	3.56	3.40	-14.81
2,344.00	8.94	98.72	2,342.09	-19.59	68.30	59.33	3.90	3.21	-17.38
2,434.00	11.39	91.10	2,430.68	-20.82	84.10	74.04	3.10	2.72	-8.47
2,525.00	13.83	78.23	2,519.49	-18.78	103.73	93.40	4.07	2.68	-14.14
2,615.00	18.79	70.70	2,605.85	-11.79	127.96	118.61	5.98	5.51	-8.37
2,706.00	20.56	68.53	2,691.54	-1.09	156.67	149.20	2.10	1.95	-2.38
2,797.00	23.10	72.05	2,776.01	10.26	188.53	182.99	3.14	2.79	3.87
2,888.00	26.41	69.90	2,858.64	22.72	224.53	221.07	3.77	3.64	-2.36
2,978.00	27.83	68.62	2,938.74	37.26	262.89	262.02	1.71	1.58	-1.42
3,068.00	31.60	68.46	3,016.89	53.58	304.40	306.51	4.19	4.19	-0.18
3,159.00	33.48	65.92	3,093.61	72.58	349.50	355.22	2.55	2.07	-2.79
3,249.00	32.27	63.57	3,169.19	93.40	393.68	403.61	1.95	-1.34	-2.61
3,340.00	32.59	64.55	3,246.00	114.74	437.56	451.86	0.68	0.35	1.08
3,430.00	29.74	62.79	3,323.01	135.37	479.31	497.86	3.32	-3.17	-1.96
3,521.00	26.13	64.35	3,403.39	154.37	517.46	539.95	4.05	-3.97	1.71
3,611.00	23.59	68.60	3,485.05	169.53	552.10	577.53	3.45	-2.82	4.72
3,702.00	22.39	75.63	3,568.84	180.47	585.85	613.01	3.29	-1.32	7.73
3,792.00	23.12	75.56	3,651.83	189.13	619.57	647.78	0.81	0.81	-0.08
3,883.00	21.32	71.87	3,736.08	198.74	652.59	682.16	2.50	-1.98	-4.05
3,973.00	22.85	70.14	3,819.47	209.77	684.58	715.98	1.85	1.70	-1.92
4,064.00	20.27	69.19	3,904.10	221.37	715.94	749.38	2.86	-2.84	-1.04
4,154.00	17.45	67.96	3,989.26	231.98	743.02	778.39	3.16	-3.13	-1.37
4,245.00	15.09	67.24	4,076.61	241.68	766.60	803.79	2.60	-2.59	-0.79
4,335.00	12.03	68.02	4,164.09	249.72	786.10	824.81	3.41	-3.40	0.87
4,426.00	10.88	71.51	4,253.28	256.00	803.04	842.85	1.47	-1.26	3.84
4,516.00	9.04	63.62	4,341.92	261.83	817.43	858.32	2.54	-2.04	-8.77
4,607.00	6.59	55.55	4,432.07	267.97	828.15	870.38	2.94	-2.69	-8.87
4,698.00	4.18	49.77	4,522.66	273.06	834.99	878.43	2.71	-2.65	-6.35
4,789.00	1.45	6.63	4,613.55	276.35	837.65	881.95	3.60	-3.00	-47.41
4,879.00	0.80	303.67	4,703.54	277.83	837.26	882.02	1.44	-0.72	-69.96
4,970.00	0.61	315.77	4,794.53	278.53	836.39	881.40	0.26	-0.21	13.30
5,061.00	0.81	308.71	4,885.52	279.28	835.55	880.83	0.24	0.22	-7.76
5,151.00	1.01	313.15	4,975.51	280.22	834.48	880.08	0.24	0.22	4.93
5,242.00	0.49	199.85	5,066.51	280.40	833.76	879.45	1.41	-0.57	-124.51
5,332.00	0.71	213.43	5,156.50	279.57	833.32	878.79	0.29	0.24	15.09
5,422.00	0.59	195.20	5,246.50	278.66	832.89	878.10	0.26	-0.13	-20.26
5,513.00	0.52	211.43	5,337.49	277.86	832.56	877.54	0.19	-0.08	17.84
5,604.00	0.67	166.64	5,428.49	276.99	832.46	877.19	0.52	0.16	-49.22
5,694.00	0.61	149.39	5,518.48	276.06	832.83	877.27	0.22	-0.07	-19.17
5,785.00	0.68	51.04	5,609.48	275.98	833.50	877.88	1.07	0.08	-108.08
5,875.00	0.75	69.92	5,699.47	276.52	834.46	878.96	0.27	0.08	20.98

Scientific Drilling International

Survey Report

Company: Kerr McGee Oil and Gas Onshore LP
Project: Uintah County, UT UTM12
Site: NBU 1022-10B Pad
Well: NBU 1022-10A4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-10A4BS
TVD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
MD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Multi-User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,966.00	0.91	96.66	5,790.46	276.64	835.74	880.22	0.46	0.18	29.38
6,056.00	1.25	43.31	5,880.45	277.27	837.12	881.73	1.13	0.38	-59.28
6,147.00	1.24	51.84	5,971.43	278.60	838.58	883.51	0.20	-0.01	9.37
6,237.00	1.37	9.01	6,061.40	280.27	839.51	884.90	1.07	0.14	-47.59
6,328.00	2.38	310.98	6,152.36	282.58	838.26	884.39	2.22	1.11	-63.77
6,419.00	1.49	247.20	6,243.32	283.36	835.74	882.22	2.39	-0.98	-70.09
6,509.00	2.59	177.99	6,333.27	280.88	834.73	880.52	2.76	1.22	-76.90
6,600.00	1.13	128.92	6,424.23	278.26	835.50	880.47	2.24	-1.60	-53.92
6,690.00	0.76	211.18	6,514.22	277.19	835.88	880.52	1.42	-0.41	91.40
6,781.00	0.83	214.22	6,605.21	276.13	835.20	879.55	0.09	0.08	3.34
6,871.00	0.49	95.55	6,695.20	275.55	835.22	879.39	1.28	-0.38	-131.86
6,962.00	0.81	112.34	6,786.20	275.27	836.20	880.25	0.41	0.35	18.45
7,052.00	0.57	104.46	6,876.19	274.92	837.22	881.12	0.29	-0.27	-8.76
7,143.00	0.48	88.73	6,967.19	274.81	838.04	881.87	0.19	-0.10	-17.29
7,234.00	0.71	95.12	7,058.18	274.77	838.98	882.75	0.26	0.25	7.02
7,324.00	0.91	120.15	7,148.17	274.36	840.16	883.75	0.45	0.22	27.81
7,415.00	1.05	156.49	7,239.16	273.23	841.12	884.33	0.69	0.15	39.93
7,505.00	0.51	273.53	7,329.16	272.50	841.04	884.04	1.51	-0.60	130.04
7,595.00	0.43	258.68	7,419.15	272.46	840.31	883.33	0.16	-0.09	-16.50
7,686.00	0.51	300.91	7,510.15	272.60	839.63	882.72	0.38	0.09	46.41
7,776.00	0.36	325.95	7,600.15	273.04	839.13	882.38	0.27	-0.17	27.82
7,867.00	0.34	334.15	7,691.15	273.52	838.85	882.25	0.06	-0.02	9.01
7,958.00	0.20	103.34	7,782.15	273.73	838.89	882.35	0.54	-0.15	141.97
8,002.00	0.17	89.69	7,826.15	273.71	839.03	882.48	0.12	-0.07	-31.02
Last SDI Production MWD Survey									
8,057.00	0.17	89.69	7,881.15	273.71	839.19	882.64	0.00	0.00	0.00
Projection To TD									

Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
NBU 1022-10A4BS PBH	0.00	0.00	8,609.00	263.26	841.53	14,518,517.74	2,083,630.23	39° 58' 6.728 N	109° 25' 5.467 W
- actual wellpath misses target center by 727.93ft at 8057.00ft MD (7881.15 TVD, 273.71 N, 839.19 E)									
- Circle (radius 25.00)									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,036.00	2,035.27	-9.55	46.82	Last Surface Survey
2,162.00	2,161.15	-13.12	50.79	First SDI Production MWD Survey
8,002.00	7,826.15	273.71	839.03	Last SDI Production MWD Survey
8,057.00	7,881.15	273.71	839.19	Projection To TD

Checked By: _____ Approved By: _____ Date: _____

Kerr McGee Oil and Gas Onshore LP

Uintah County, UT UTM12

NBU 1022-10B Pad

NBU 1022-10A4BS

OH

Design: OH

Survey Report - Geographic

15 September, 2009

Scientific Drilling International

Survey Report - Geographic

Company: Kerr McGee Oil and Gas Onshore LP
Project: Uintah County, UT UTM12
Site: NBU 1022-10B Pad
Well: NBU 1022-10A4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-10A4BS
TVD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
MD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Multi-User Db

Project Uintah County, UT UTM12

Map System: Universal Transverse Mercator (US Survey Feet)
Geo Datum: NAD 1927 - Western US
Map Zone: Zone 12N (114 W to 108 W)

System Datum: Mean Sea Level

Site NBU 1022-10B Pad, Sec 10 T10S R22E

Site Position:		Northing:	14,518,241.45 ft	Latitude:	39° 58' 4.158 N
From:	Lat/Long	Easting:	2,082,713.50 ft	Longitude:	109° 25' 17.304 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	1.01 °

Well NBU 1022-10A4BS, 1067' FNL 1463' FEL

Well Position	+N/-S	0.00 ft	Northing:	14,518,239.62 ft	Latitude:	39° 58' 4.126 N
	+E/-W	0.00 ft	Easting:	2,082,793.50 ft	Longitude:	109° 25' 16.277 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,055.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	7/23/2009	11.26	65.91	52,539

Design OH

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	72.63	

Survey Program **Date** 9/15/2009

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
9.00	2,036.00	Survey #1 - Surface (OH)	MWD SDI	MWD - Standard ver 1.0.1
2,162.00	8,057.00	Survey #2 - Production (OH)	MWD SDI	MWD - Standard ver 1.0.1

Scientific Drilling International

Survey Report - Geographic

Company: Kerr McGee Oil and Gas Onshore LP
Project: Uintah County, UT UTM12
Site: NBU 1022-10B Pad
Well: NBU 1022-10A4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-10A4BS
TVD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
MD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Multi-User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,518,239.62	2,082,793.50	39° 58' 4.126 N	109° 25' 16.277 W
9.00	0.00	0.00	9.00	0.00	0.00	14,518,239.62	2,082,793.50	39° 58' 4.126 N	109° 25' 16.277 W
136.00	0.20	195.95	136.00	-0.21	-0.06	14,518,239.41	2,082,793.44	39° 58' 4.124 N	109° 25' 16.278 W
206.00	0.62	127.55	206.00	-0.56	0.21	14,518,239.07	2,082,793.71	39° 58' 4.120 N	109° 25' 16.274 W
296.00	0.61	82.42	295.99	-0.79	1.07	14,518,238.85	2,082,794.58	39° 58' 4.118 N	109° 25' 16.263 W
386.00	1.55	93.24	385.98	-0.80	2.76	14,518,238.87	2,082,796.27	39° 58' 4.118 N	109° 25' 16.242 W
746.00	1.86	83.46	745.82	-0.41	13.42	14,518,239.45	2,082,806.93	39° 58' 4.122 N	109° 25' 16.105 W
836.00	1.56	79.85	835.78	-0.03	16.08	14,518,239.88	2,082,809.57	39° 58' 4.126 N	109° 25' 16.070 W
926.00	1.94	84.63	925.74	0.33	18.80	14,518,240.29	2,082,812.29	39° 58' 4.129 N	109° 25' 16.035 W
1,016.00	1.69	79.08	1,015.69	0.72	21.62	14,518,240.73	2,082,815.10	39° 58' 4.133 N	109° 25' 15.999 W
1,106.00	1.60	84.91	1,105.65	1.09	24.18	14,518,241.14	2,082,817.65	39° 58' 4.137 N	109° 25' 15.966 W
1,196.00	1.67	81.83	1,195.62	1.39	26.73	14,518,241.48	2,082,820.19	39° 58' 4.140 N	109° 25' 15.934 W
1,286.00	1.36	85.76	1,285.58	1.65	29.09	14,518,241.79	2,082,822.55	39° 58' 4.142 N	109° 25' 15.903 W
1,376.00	1.61	110.11	1,375.56	1.29	31.34	14,518,241.47	2,082,824.81	39° 58' 4.139 N	109° 25' 15.874 W
1,466.00	1.82	101.63	1,465.52	0.57	33.93	14,518,240.80	2,082,827.41	39° 58' 4.132 N	109° 25' 15.841 W
1,556.00	1.75	115.59	1,555.47	-0.31	36.57	14,518,239.96	2,082,830.07	39° 58' 4.123 N	109° 25' 15.807 W
1,646.00	1.48	126.65	1,645.44	-1.60	38.74	14,518,238.71	2,082,832.26	39° 58' 4.110 N	109° 25' 15.779 W
1,736.00	1.67	119.45	1,735.40	-2.94	40.81	14,518,237.41	2,082,834.36	39° 58' 4.097 N	109° 25' 15.753 W
1,826.00	1.73	138.27	1,825.36	-4.59	42.86	14,518,235.79	2,082,836.43	39° 58' 4.081 N	109° 25' 15.726 W
1,916.00	1.69	140.95	1,915.32	-6.64	44.60	14,518,233.78	2,082,838.21	39° 58' 4.060 N	109° 25' 15.704 W
2,006.00	1.74	145.29	2,005.28	-8.79	46.22	14,518,231.65	2,082,839.86	39° 58' 4.039 N	109° 25' 15.683 W
2,036.00	1.95	138.01	2,035.27	-9.55	46.82	14,518,230.91	2,082,840.48	39° 58' 4.032 N	109° 25' 15.676 W
Last Surface Survey									
2,162.00	2.93	128.02	2,161.15	-13.12	50.79	14,518,227.40	2,082,844.51	39° 58' 3.996 N	109° 25' 15.625 W
First SDI Production MWD Survey									
2,253.00	6.02	114.54	2,251.87	-16.54	56.96	14,518,224.10	2,082,850.74	39° 58' 3.963 N	109° 25' 15.545 W
2,344.00	8.94	98.72	2,342.09	-19.59	68.30	14,518,221.24	2,082,862.13	39° 58' 3.932 N	109° 25' 15.400 W
2,434.00	11.39	91.10	2,430.68	-20.82	84.10	14,518,220.29	2,082,877.95	39° 58' 3.920 N	109° 25' 15.197 W
2,525.00	13.83	78.23	2,519.49	-18.78	103.73	14,518,222.69	2,082,897.55	39° 58' 3.940 N	109° 25' 14.944 W
2,615.00	18.79	70.70	2,605.85	-11.79	127.96	14,518,230.10	2,082,921.65	39° 58' 4.009 N	109° 25' 14.633 W
2,706.00	20.56	68.53	2,691.54	-1.09	156.67	14,518,241.30	2,082,950.16	39° 58' 4.115 N	109° 25' 14.265 W
2,797.00	23.10	72.05	2,776.01	10.26	188.53	14,518,253.22	2,082,981.81	39° 58' 4.227 N	109° 25' 13.855 W
2,888.00	26.41	69.90	2,858.64	22.72	224.53	14,518,266.31	2,083,017.59	39° 58' 4.351 N	109° 25' 13.393 W
2,978.00	27.83	68.62	2,938.74	37.26	262.89	14,518,281.53	2,083,055.68	39° 58' 4.494 N	109° 25' 12.900 W
3,068.00	31.60	68.46	3,016.89	53.58	304.40	14,518,298.58	2,083,096.90	39° 58' 4.656 N	109° 25' 12.367 W
3,159.00	33.48	65.92	3,093.61	72.58	349.50	14,518,318.38	2,083,141.65	39° 58' 4.843 N	109° 25' 11.788 W
3,249.00	32.27	63.57	3,169.19	93.40	393.68	14,518,339.98	2,083,185.46	39° 58' 5.049 N	109° 25' 11.220 W
3,340.00	32.59	64.55	3,246.00	114.74	437.56	14,518,362.10	2,083,228.96	39° 58' 5.260 N	109° 25' 10.656 W
3,430.00	29.74	62.79	3,323.01	135.37	479.31	14,518,383.46	2,083,270.33	39° 58' 5.464 N	109° 25' 10.120 W
3,521.00	26.13	64.35	3,403.39	154.37	517.46	14,518,403.13	2,083,308.14	39° 58' 5.652 N	109° 25' 9.630 W
3,611.00	23.59	68.60	3,485.05	169.53	552.10	14,518,418.90	2,083,342.51	39° 58' 5.802 N	109° 25' 9.185 W
3,702.00	22.39	75.63	3,568.84	180.47	585.85	14,518,430.44	2,083,376.06	39° 58' 5.910 N	109° 25' 8.751 W
3,792.00	23.12	75.56	3,651.83	189.13	619.57	14,518,439.70	2,083,409.62	39° 58' 5.995 N	109° 25' 8.318 W
3,883.00	21.32	71.87	3,736.08	198.74	652.59	14,518,449.88	2,083,442.47	39° 58' 6.090 N	109° 25' 7.894 W
3,973.00	22.85	70.14	3,819.47	209.77	684.58	14,518,461.48	2,083,474.25	39° 58' 6.199 N	109° 25' 7.483 W
4,064.00	20.27	69.19	3,904.10	221.37	715.94	14,518,473.64	2,083,505.40	39° 58' 6.314 N	109° 25' 7.080 W
4,154.00	17.45	67.96	3,989.26	231.98	743.02	14,518,484.72	2,083,532.30	39° 58' 6.419 N	109° 25' 6.732 W
4,245.00	15.09	67.24	4,076.61	241.68	766.60	14,518,494.84	2,083,555.70	39° 58' 6.515 N	109° 25' 6.430 W
4,335.00	12.03	68.02	4,164.09	249.72	786.10	14,518,503.23	2,083,575.05	39° 58' 6.594 N	109° 25' 6.179 W
4,426.00	10.88	71.51	4,253.28	256.00	803.04	14,518,509.80	2,083,591.88	39° 58' 6.656 N	109° 25' 5.961 W
4,516.00	9.04	63.62	4,341.92	261.83	817.43	14,518,515.89	2,083,606.17	39° 58' 6.714 N	109° 25' 5.777 W
4,607.00	6.59	55.55	4,432.07	267.97	828.15	14,518,522.21	2,083,616.77	39° 58' 6.775 N	109° 25' 5.639 W
4,698.00	4.18	49.77	4,522.66	273.06	834.99	14,518,527.43	2,083,623.52	39° 58' 6.825 N	109° 25' 5.551 W
4,789.00	1.45	6.63	4,613.55	276.35	837.65	14,518,530.76	2,083,626.12	39° 58' 6.857 N	109° 25' 5.517 W
4,879.00	0.80	303.67	4,703.54	277.83	837.26	14,518,532.23	2,083,625.71	39° 58' 6.872 N	109° 25' 5.522 W

Scientific Drilling International

Survey Report - Geographic

Company: Kerr McGee Oil and Gas Onshore LP
Project: Uintah County, UT UTM12
Site: NBU 1022-10B Pad
Well: NBU 1022-10A4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well NBU 1022-10A4BS
 GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
 GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
 True
 Minimum Curvature
 EDM 2003.16 Multi-User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
4,970.00	0.61	315.77	4,794.53	278.53	836.39	14,518,532.91	2,083,624.83	39° 58' 6.879 N	109° 25' 5.533 W
5,061.00	0.81	308.71	4,885.52	279.28	835.55	14,518,533.65	2,083,623.97	39° 58' 6.886 N	109° 25' 5.544 W
5,151.00	1.01	313.15	4,975.51	280.22	834.48	14,518,534.57	2,083,622.88	39° 58' 6.896 N	109° 25' 5.558 W
5,242.00	0.49	199.85	5,066.51	280.40	833.76	14,518,534.74	2,083,622.16	39° 58' 6.897 N	109° 25' 5.567 W
5,332.00	0.71	213.43	5,156.50	279.57	833.32	14,518,533.91	2,083,621.74	39° 58' 6.889 N	109° 25' 5.572 W
5,422.00	0.59	195.20	5,246.50	278.66	832.89	14,518,532.99	2,083,621.33	39° 58' 6.880 N	109° 25' 5.578 W
5,513.00	0.52	211.43	5,337.49	277.86	832.56	14,518,532.17	2,083,621.00	39° 58' 6.872 N	109° 25' 5.582 W
5,604.00	0.67	166.64	5,428.49	276.99	832.46	14,518,531.30	2,083,620.93	39° 58' 6.864 N	109° 25' 5.583 W
5,694.00	0.61	149.39	5,518.48	276.06	832.83	14,518,530.39	2,083,621.31	39° 58' 6.855 N	109° 25' 5.579 W
5,785.00	0.68	51.04	5,609.48	275.98	833.50	14,518,530.32	2,083,621.98	39° 58' 6.854 N	109° 25' 5.570 W
5,875.00	0.75	69.92	5,699.47	276.52	834.46	14,518,530.88	2,083,622.93	39° 58' 6.859 N	109° 25' 5.558 W
5,966.00	0.91	96.66	5,790.46	276.64	835.74	14,518,531.02	2,083,624.21	39° 58' 6.860 N	109° 25' 5.541 W
6,056.00	1.25	43.31	5,880.45	277.27	837.12	14,518,531.67	2,083,625.58	39° 58' 6.867 N	109° 25' 5.524 W
6,147.00	1.24	51.84	5,971.43	278.60	838.58	14,518,533.03	2,083,627.01	39° 58' 6.880 N	109° 25' 5.505 W
6,237.00	1.37	9.01	6,061.40	280.27	839.51	14,518,534.71	2,083,627.92	39° 58' 6.896 N	109° 25' 5.493 W
6,328.00	2.38	310.98	6,152.36	282.58	838.26	14,518,537.00	2,083,626.62	39° 58' 6.919 N	109° 25' 5.509 W
6,419.00	1.49	247.20	6,243.32	283.36	835.74	14,518,537.74	2,083,624.09	39° 58' 6.927 N	109° 25' 5.541 W
6,509.00	2.59	177.99	6,333.27	280.88	834.73	14,518,535.23	2,083,623.13	39° 58' 6.902 N	109° 25' 5.554 W
6,600.00	1.13	128.92	6,424.23	278.26	835.50	14,518,532.63	2,083,623.94	39° 58' 6.876 N	109° 25' 5.544 W
6,690.00	0.76	211.18	6,514.22	277.19	835.88	14,518,531.57	2,083,624.34	39° 58' 6.866 N	109° 25' 5.540 W
6,781.00	0.83	214.22	6,605.21	276.13	835.20	14,518,530.50	2,083,623.68	39° 58' 6.855 N	109° 25' 5.548 W
6,871.00	0.49	95.55	6,695.20	275.55	835.22	14,518,529.92	2,083,623.70	39° 58' 6.850 N	109° 25' 5.548 W
6,962.00	0.81	112.34	6,786.20	275.27	836.20	14,518,529.65	2,083,624.69	39° 58' 6.847 N	109° 25' 5.535 W
7,052.00	0.57	104.46	6,876.19	274.92	837.22	14,518,529.32	2,083,625.72	39° 58' 6.843 N	109° 25' 5.522 W
7,143.00	0.48	88.73	6,967.19	274.81	838.04	14,518,529.23	2,083,626.54	39° 58' 6.842 N	109° 25' 5.512 W
7,234.00	0.71	95.12	7,058.18	274.77	838.98	14,518,529.20	2,083,627.48	39° 58' 6.842 N	109° 25' 5.500 W
7,324.00	0.91	120.15	7,148.17	274.36	840.16	14,518,528.82	2,083,628.66	39° 58' 6.838 N	109° 25' 5.485 W
7,415.00	1.05	156.49	7,239.16	273.23	841.12	14,518,527.71	2,083,629.64	39° 58' 6.827 N	109° 25' 5.472 W
7,505.00	0.51	273.53	7,329.16	272.50	841.04	14,518,526.97	2,083,629.58	39° 58' 6.819 N	109° 25' 5.473 W
7,595.00	0.43	258.68	7,419.15	272.46	840.31	14,518,526.92	2,083,628.85	39° 58' 6.819 N	109° 25' 5.483 W
7,686.00	0.51	300.91	7,510.15	272.60	839.63	14,518,527.05	2,083,628.17	39° 58' 6.820 N	109° 25' 5.491 W
7,776.00	0.36	325.95	7,600.15	273.04	839.13	14,518,527.48	2,083,627.66	39° 58' 6.825 N	109° 25' 5.498 W
7,867.00	0.34	334.15	7,691.15	273.52	838.85	14,518,527.95	2,083,627.37	39° 58' 6.829 N	109° 25' 5.501 W
7,958.00	0.20	103.34	7,782.15	273.73	838.89	14,518,528.16	2,083,627.41	39° 58' 6.831 N	109° 25' 5.501 W
8,002.00	0.17	89.69	7,826.15	273.71	839.03	14,518,528.15	2,083,627.55	39° 58' 6.831 N	109° 25' 5.499 W
Last SDI Production MWD Survey									
8,057.00	0.17	89.69	7,881.15	273.71	839.19	14,518,528.15	2,083,627.71	39° 58' 6.831 N	109° 25' 5.497 W
Projection To TD									

Scientific Drilling International

Survey Report - Geographic

Company: Kerr McGee Oil and Gas Onshore LP
Project: Uintah County, UT UTM12
Site: NBU 1022-10B Pad
Well: NBU 1022-10A4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-10A4BS
TVD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
MD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Multi-User Db

Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
NBU 1022-10A4BS PBH	0.00	0.00	8,609.00	263.26	841.53	14,518,517.74	2,083,630.23	39° 58' 6.728 N	109° 25' 5.467 W
- actual wellpath misses target center by 727.93ft at 8057.00ft MD (7881.15 TVD, 273.71 N, 839.19 E) - Circle (radius 25.00)									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,036.00	2,035.27	-9.55	46.82	Last Surface Survey
2,162.00	2,161.15	-13.12	50.79	First SDI Production MWD Survey
8,002.00	7,826.15	273.71	839.03	Last SDI Production MWD Survey
8,057.00	7,881.15	273.71	839.19	Projection To TD

Checked By: _____ Approved By: _____ Date: _____

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: KERR-McGEE OIL & GAS ONSHORE, L.P.

Well Name: NBU 1022-10A4BS

Api No: 43-047-50361 Lease Type: STATE

Section 10 Township 10S Range 22E County UINTAH

Drilling Contractor PETE MARTIN DRLG RIG # BUCKET

SPUDDED:

Date 08/04/2009

Time 2:30 PM

How DRY

Drilling will Commence: _____

Reported by JAMES GOBER

Telephone # (435) 828-7024

Date 08/04/2009 Signed CHD

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY ACTION FORM

Operator: KERR McGEE OIL & GAS ONSHORE LP
Address: P.O. Box 173779
city DENVER
state CO zip 80217

Operator Account Number: N 2995
Phone Number: (720) 929-6100

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750361	NBU 1022-10A4BS		NWNE	10	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
<u>B</u>	99999	<u>2900</u>	8/4/2009		<u>8/13/09</u>		
Comments: MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 08/04/2009 AT 14:30 HRS. <u>BHL = NENE</u>							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

ACTION CODES:

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

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AUG 05 2009

ANDY LYTLE

Name (Please Print)

Signature

REGULATORY ANALYST

Title

8/5/2009

Date

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

AMENDED REPORT ☐ FORM 8
(highlight changes)

5. LEASE DESIGNATION AND SERIAL NUMBER:
UO-01197A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT or CA AGREEMENT NAME

8. WELL NAME and NUMBER:
NBU 1022-10A4BS

9. API NUMBER:
4304750361

10. FIELD AND POOL, OR WILDCAT
NATURAL BUTTES

11. QTR/QTR, SECTION, TOWNSHIP, RANGE,
MERIDIAN:
NWNE 10 10S 22E

12. COUNTY
UINTAH

13. STATE
UTAH

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ OTHER

b. TYPE OF WORK: NEW WELL ☒ HORIZ. LATS. ☐ DEEP-EN ☐ RE-ENTRY ☐ DIFF. RESVR. ☐ OTHER

2. NAME OF OPERATOR:
KERR MCGEE OIL & GAS ONSHORE LP

3. ADDRESS OF OPERATOR:
P.O. BOX 173779 CITY DENVER STATE CO ZIP 80217

PHONE NUMBER:
(720) 929-6100

4. LOCATION OF WELL (FOOTAGES)

AT SURFACE: NWNE 1067 FNL & 1463 FEL

AT TOP PRODUCING INTERVAL REPORTED BELOW: NENE 790 FNL & 628 FEL SEC.10-10S-22E

AT TOTAL DEPTH: NENE 804 FNL & 622 FEL SEC.10-10S-22E

per HSM review

14. DATE SPUDDED: 8/4/2009

15. DATE T.D. REACHED: 9/4/2009

16. DATE COMPLETED: 11/24/2009

ABANDONED ☐ READY TO PRODUCE ☒

17. ELEVATIONS (DF, RKB, RT, GL):
5458' GL

18. TOTAL DEPTH: MD 8,725
TVD 8,549

19. PLUG BACK T.D.: MD 8,655
TVD 7,811

20. IF MULTIPLE COMPLETIONS, HOW MANY? *

21. DEPTH BRIDGE MD
PLUG SET: TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)

ACOUSTIC CLB-CCL/GR-CHI TRIPLE COMBO

23.

WAS WELL CORED? NO ☒ YES ☐ (Submit analysis)
WAS DST RUN? NO ☒ YES ☐ (Submit report)
DIRECTIONAL SURVEY? NO ☐ YES ☒ (Submit copy)

24. CASING AND LINER RECORD (Report all strings set in well)

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#		40		28			
12 1/4"	9 5/8 J-55	36#		2,048		390			
7 7/8"	4 1/2 I-80	11.6#		8,700		1850			

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	8,059							

26. PRODUCING INTERVALS

(W.S.MUD) - Unit PA

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A) MESAVERDE	6,806	8,596			6,806 8,596	0.36	240	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(B)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

27. PERFORATION RECORD

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
6,806'-8,596'	PMP 8,759 BBLs SLICK H2O & 393,083 LBS 30/50 SD.

29. ENCLOSED ATTACHMENTS:

☐ ELECTRICAL/MECHANICAL LOGS
☐ SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION

☐ GEOLOGIC REPORT
☐ CORE ANALYSIS
☐ DST REPORT
☐ OTHER:

☒ DIRECTIONAL SURVEY

30. WELL STATUS:

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31. INITIAL PRODUCTION

INTERVAL A (As shown in item #26)

DATE FIRST PRODUCED: 11/24/2009		TEST DATE: 11/27/2009		HOURS TESTED: 24		TEST PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 2,536	WATER – BBL: 480	PROD. METHOD: FLOWING
CHOKE SIZE: 20/64	TBG. PRESS. 1,750	CSG. PRESS. 2,450	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 2,536	WATER – BBL: 480	INTERVAL STATUS: PROD

INTERVAL B (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL C (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL D (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

SOLD

33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof. Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
GREEN RIVER	1,217				
MAHOGANY	1,924				
WASATCH	4,155				
MESAVERDE	6,309				

35. ADDITIONAL REMARKS (Include plugging procedure)

ATTACHED TO THIS COMPLETION REPORT IS THE CHRONOLOGICAL WELL HISTORY.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) ANDY LYTLETITLE REGULATORY ANALYSTSIGNATURE DATE 1/21/2010

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

** ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

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DIV. OF OIL, GAS & MINING

US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-10A4BS [GREEN] Spud Conductor: 8/4/2009 Spud Date: 8/8/2009
 Project: UTAH-UINTAH Site: NBU 1022-10B PAD Rig Name No: ENSIGN 139/139, PROPETRO/
 Event: DRILLING Start Date: 8/7/2009 End Date: 9/5/2009
 Active Datum: RKB @5,462.00ft (above Mean Sea Level) UWI: NBU 1022-10A4BS

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
8/8/2009	6:30 - 11:00	4.50	DRLSUR	01	A	P		MOVE RIG
	11:00 - 14:00	3.00	DRLSUR	01	B	P		RIG UP
	14:00 - 16:00	2.00	DRLSUR	02	A	P		AIR HAMMER TO SPUD 12.25 HOLE 40 TO 190
	16:00 - 17:00	1.00	DRLSUR	06	A	P		TOH W/ AIR HAMMER DRILL F/ 40 TO 190'
	17:00 - 18:00	1.00	DRLSUR	06	A	P		P/U MWD TOOLS
	18:00 - 18:30	0.50	DRLSUR	06	A	P		TIHW MWD TOOLS
	18:30 - 0:00	5.50	DRLSUR	02	A	P		DRILL F/190 TO 790'
8/9/2009	0:00 - 12:30	12.50	DRLSUR	02	B	P		DRILL F/ 790 TO 2080'
	12:30 - 13:00	0.50	DRLSUR	05	A	P		CIRC. HOLE CLEAN
	13:00 - 16:30	3.50	DRLSUR	06	A	P		TOH TO RUN 9 5/8 CASING
	16:30 - 18:30	2.00	DRLSUR	12	C	P		RIG UP RUN 47 JTS 9 5/8 # 36 J-55 LT&C SHOE 2053' BAFF @ 2011'
	18:30 - 19:00	0.50	DRLSUR	05	A	P		CIRC 9 5/8 CSG.
	19:00 - 21:00	2.00	DRLSUR	12	E	P		RIG DOWN RIG RELEASED @ 19:00 08/09/2009 CMT TAIL 1# 15.8 YIELD 1.15 290 SX CMT 35% EXCESS W/ 2% CALC2, 1/4 LBPER SX FLOW SEAL, DISPLACED W/XXX BBLS BUMPED PLUG ,FLOATS HELD, NO CMT TO SURFACE, TOP OUT W/ 100 SX 15.8 YIELD 1.15
8/25/2009	21:00 - 0:00	3.00	DRLPRO	01	A	P		RIG DOWN WILL BE MOVING THIS AM W/ KERR TRUCKING
8/26/2009	0:00 - 8:00	8.00	DRLPRO	01	E	P		RIG DOWN ROT TOOLS
	8:00 - 20:00	12.00	DRLPRO	01	A	P		LOWER DERRICK & R/D DERRICK & MOVE RIG & 100% MOVED & 40% SET IN - 11 TRUCK TOTAL - 6 HAUL TRUCK - 3 BED TRUCKS - 2 GIN TRUCK - 2 GIN FORKLIFTS.
8/27/2009	20:00 - 0:00	4.00	DRLPRO	01	B	P		IDLE
	0:00 - 6:00	6.00	DRLPRO	01	B	P		IDLE
	6:00 - 12:30	6.50	DRLPRO	01	B	P		FINSH SET IN RIG _ TRUCKS OFF LOCTION @ 12.30
	12:30 - 0:00	11.50	DRLPRO	01	B	P		RURT - RAISE DERRICK @ 16:00 - CONTINUE RURT - (NOTE : REPLACED COMM CABLE TO IRON DERRICK HAND)
8/28/2009	0:00 - 8:30	8.50	DRLPRO	01	B	P		RURT -
	8:30 - 14:00	5.50	DRLPRO	15	A	P		TEST B.O.P'S - TOP DRIVE VALUES - PIPE RAMS - BLIND RAMS - 4" - 2" VALVES - HCR - CKOKE MAINFOLD - SAFETY VALUES - 250 LOW - 5000 HIGH - ANNULAR 250 LOW - 2500 HIGH - SURFACE CASING 1500 PSI
	14:00 - 14:30	0.50	DRLPRO	14	B	P		INSTALL WEAR BUSHING
	14:30 - 15:30	1.00	DRLPRO	23		P		PRE SPUD RIG INSPECTION
	15:30 - 16:00	0.50	DRLPRO	07	A	P		SER RIGS TOP DRIVE
	16:00 - 0:00	8.00	DRLPRO	06	A	P		FINSH LOADING RACK & STRAP D.P. & P/U DIR TOOLS & SCRIBE - THE BOTTOM CONNECTOR IN THE SEAT TOOLS ON MWD WAS WORE BUT NEW IT WAS MOVING 20 - 40 DEGREES C/O BOTTOM TOOL - CONT. TO P/U BHA & D.P.
								TAG CEMENT @ 1971 & DRILL CEMENT & F.E
								DRILL-SLIDE F/ 2080 TO 3123 - 1043' @ 80.2 FPH W/ 8.4 MUD WT - VIS 26 - RPM 45 MRPM 112 - WOB 12/16 - TQ - 8/6 - GPM 487
								SER RIG
8/29/2009	0:00 - 1:00	1.00	DRLPRO	02	F	P		
	1:00 - 14:00	13.00	DRLPRO	02	D	P		
	14:00 - 14:30	0.50	DRLPRO	07	A	P		

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]		Spud Conductor: 8/4/2009		Spud Date: 8/8/2009	
Project: UTAH-UINTAH		Site: NBU 1022-10B PAD		Rig Name No: ENSIGN 139/139, PROPETRO/	
Event: DRILLING		Start Date: 8/7/2009		End Date: 9/5/2009	
Active Datum: RKB @5,462.00ft (above Mean Sea Level)			UWI: NBU 1022-10A4BS		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
8/30/2009	14:30 - 0:00	9.50	DRLPRO	02	D	P		DRILL - SLIDE F/ 3123 TO 4000' - 877" @ 92.3 FPH W/ 8.3 PPG MUD WT - VIS 26 - RPM 45 - MRPM 112 - WOB 12/16 - TQ 9/7 - GPM 487
	0:00 - 12:30	12.50	DRLPRO	02	D	P		DRILL-SLIDE F/ 4000 TO 5206 - 1206' @ 96.48 FPH W/ 8.4 MUD WT VIS 27 - RPM 45 - MRPM - 112 - WOB 14/16 - TQ 10/7 - GPM 487
	12:30 - 13:00	0.50	DRLPRO	07	A	P		SER RIG
	13:00 - 0:00	11.00	DRLPRO	02	D	P		DRILL - SLIDE F/ 5206 TO 6040 - 834' @ 75.8 FPH W/ 8.4 MUD WT VIS 27 - RPM 45 - MRPM - 112 - WOB 14/16 - TQ 10/7 - GPM 487 - STARTED LIGHT UP ON SYSTEM @ 6000
8/31/2009	0:00 - 12:00	12.00	DRLPRO	02	D	P		DRILL - SLIDE F/ 6040 TO 6428 - 388' @ 32.3 FPH W/ 9.0 PPG MUD WT VIS 36 - RPM 45 - MRPM 112 - WOB 16/20 - TQ 13/9 - GPM 487 - WELL DIR IS TRY TO GO TO THE NORTH EAST
	12:00 - 12:30	0.50	DRLPRO	07	A	P		SER RIG
	12:30 - 0:00	11.50	DRLPRO	02	D	P		DRILL-SLIDE F/ 6428 TO 6840 - 412' @ 35.8 FPH W/ 9.8 PPG MUD WT VIS 36 - RPM 45 MRPM 112 - WOB 18/20 - TQ- 13/9 - GPM 487 - WELL SEEPING FLUID @ 6930 LOST 100 BBL PUMP LCM SWEEP - OLD WELL NBU 231 PREFORATED F/ 4964' TO 7012'
9/1/2009	0:00 - 13:00	13.00	DRLPRO	02	D	P		DRILL-SLIDE F/ 6840 TO 7370 - 530' @ 40.7 FPH W/ 10.5 PPG MUD WT VIS 38 - RPM 45 - MRPM 112 - WOB 18/20 - TQ 16/13 - GPM 487
	13:00 - 13:30	0.50	DRLPRO	07	A	P		SER RIG
	13:30 - 0:00	10.50	DRLPRO	02	D	P		DRILL F/ 7370 TO 7683 - 313' @ 29.8 FPH W/ 11.0 PPG MUD WT VIS 39 - LCM @ 3% - RPM 45 - MRPM 112 - WOB 18/20 - TQ 16/13 - GPM 487
9/2/2009	0:00 - 13:00	13.00	DRLPRO	02	D	P		DRILL-SLIDE F/ 7683 TO 8057 - 374' @ 28.7 FPH W/ 11.5 MUD WT VIS 40 - 3% LCM - RPM 45 -MRPM 112 - WOB 20/23 - TQ 18/15 - GPM 487 - LAST SURVEY 8002' INC .17 - AZM 89.69
	13:00 - 14:00	1.00	DRLPRO	06	A	P		PUMP 4 STANDS & PUMP SLUG ON 5 STAND & RUN INTO IRON ROUGH NECK W/ D.P ELEVATORS.
	14:00 - 18:30	4.50	DRLPRO	08	A	Z		REPAIR HOSES ON ELEVATORS & THE RON ROUGH NECK WAS PARK IN THE CENTER WHEN THE ELEVATORS HIT POWER SHOE THE IRON DERRICK DRIFT OUT PAST CENTER,(TORE LOSE A IRON PLATE AT THE TOP OF POWER SHOE WHERE THE PIN IS THAT HOLDS THE POWER SHOE AT THE BOTTOM OF CYL. AT THE SCOPING TUBE.
9/3/2009	18:30 - 0:00	5.50	DRLPRO	06	A	P		T.F.N.B (L.D.D.P) - L/D 10 JTS MORE PUMPING & ROTATING & PUMP DRY JOB & CONT L.D.D.P
	0:00 - 5:30	5.50	DRLPRO	06	A	P		T.F.N.B (L.D.D.P & BHA
	5:30 - 7:00	1.50	DRLPRO	06	A	P		L/D DIR TOOLS & BIT & MOTOR
	7:00 - 8:00	1.00	DRLPRO	06	A	P		LAY DOWN 4 STANDS IN DERRICK
	8:00 - 9:30	1.50	DRLPRO	06	A	P		P/U BIT - MOTOR - MONEL DC. & TEST MOTOR
	9:30 - 18:00	8.50	DRLPRO	06	A	P		P/U BHA & D.P & T.I.H
	18:00 - 18:30	0.50	DRLPRO	03	E	P		WASH 90' TO BOTTOM
	18:30 - 0:00	5.50	DRLPRO	02	D	P		DRILL F/ 8057 TO 8365 - 308' @ 56.0 FPH W/ 11.8 PPG MUD WT VIS 42 - LCM 3% - RPM 45 - MRPM 68 - WOB 16/18 - TQ 14/11 - GPM 487
9/4/2009	0:00 - 4:30	4.50	DRLPRO	02	D	P		DRILL F/ 8365 TO 8667 - 302' @ 67.1 FPH W/ 11.8 PPG NUD WT VIS 43 - 5% LCM - RPM 45 - MRPM 68 -WOB 16/18 - TQ 18/15 - GPM 470
	4:30 - 6:00	1.50	DRLPRO	08	A	P		REPAIR FAN BELTS ON #1 GEN SET

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]		Spud Conductor: 8/4/2009	Spud Date: 8/8/2009
Project: UTAH-UINTAH		Site: NBU 1022-10B PAD	Rig Name No: ENSIGN 139/139, PROPETRO/
Event: DRILLING		Start Date: 8/7/2009	End Date: 9/5/2009
Active Datum: RKB @5,462.00ft (above Mean Sea Level)		UWI: NBU 1022-10A4BS	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
9/5/2009	6:00 - 7:00	1.00	DRLPRO	02	D	P		DRILL F/ 8667 TO 8725 - 58' @ 58.0 FPH W/ 12.0 PPG MUD WT VIS 43 - LCM 5% - RPM 45 - MRPM 68 - WOB 16/18 - TQ 18/15 - GPM 470 - TD WELL @ 8725 - 07:00 AM ON 9/4/2009
	7:00 - 8:30	1.50	DRLPRO	05	C	P		CIRC BTM UP
	8:30 - 18:00	9.50	DRLPRO	06	D	P		DROP SURVEY TOOL & T.O.H - L.D.D.P (PUMP - ROT OUT 10 JTS & PUMP SLUG & CONT. L.D.D.P & BHA TO RUN CASING.
	18:00 - 18:30	0.50	DRLPRO	14	B	P		PULL WEAR BUSHING & M/U CIRC SUB TO TOP DRIVE.
	18:30 - 0:00	5.50	DRLPRO	12	C	P		HELD SAFETY MEETING & R/U KIMZEY CASING & RUN 4 1/2 PRODUCTION STRING
	0:00 - 0:30	0.50	DRLPRO	14	A	P		NIPPLE DOWN & TRANS 700 BBLS MUD TO SECONDARY TANKS & CLEAN MUD TANKS & RELEASED RIG @ 08:00 AM ON 09/05/2009
	0:30 - 1:30	1.00	DRLPRO	12	C	P		RUN 4 1/2 PROD. STRING SET @ SHOE 8,690 - FLOAT COLLAR 8,645 RUN 198 JTS PLUS MARKER. @ 8,703
	1:30 - 3:00	1.50	DRLPRO	05	A	P		CIRC BTM UP
	3:00 - 6:30	3.50	DRLPRO	12	E	P		HELD SAFETY MEETING & R/U HALLIBURTON CEMENT HEAD & TEST LINES 5,000 PSI CEMENT W/ 40 BBLS WATER - F/ LEAD 500 SKS @ 12.0 PPG YIELD 2.25 F/ TAIL 1350 SKS @ 14.3 PPG YIELD 1.25 - DROP PLUG & DISPLACED W/ 134.5 BBLS WATER & BUMP PLUG W/ FINAL CIRC OF 2200 W/ 500 OVER - HAD FULL RETURNS & GOT BACK 40 BBLS WATER TURNING GRAY WHEN BUMP PLUG & DOWN 05:45 AM - PLUG HELD & R/D HALLIBURTON
	6:30 - 8:00	1.50	DRLPRO	14	B	P		AFTER CEMENTING COULDN'T LAND CASING HANGER & P/U STACK & SET SLIPS 125K
	8:00 - 12:00	4.00	DRLPRO	08	A	P		STRING WT & CUT OFF CASING & L/D LAND JT TOOK 4 HRS DOWN TIME DO TO PRIOR TRIP F/ BIT & AFTER I.D.M WAS BROKE DOWN

US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]			Spud Conductor: 8/4/2009			Spud Date: 8/8/2009			
Project: UTAH-UINTAH			Site: NBU 1022-10B PAD				Rig Name No:		
Event: COMPLETION			Start Date: 11/16/2009				End Date: 11/23/2009		
Active Datum: RKB @5,462.00ft (above Mean Sea Level)				UWI: NBU 1022-10A4BS					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation	
10/30/2009	-								
11/16/2009	7:00 - 7:15	0.25	COMP	48		P		HSM, R/U	
	7:15 - 16:30	9.25	COMP	47	A	P		MIRU SUPERIOR FRAC & SCHLUM WIRE LINE EQUIP, PREP TO FRAC. P/U RIH W/ 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 4 SPF, 90° PH, 8590'-8596' 24 HOLES. 8318'-8322' 16 HOLES. [40 HOLES]	
11/17/2009	5:30 - 6:30	1.00	COMP	48		P		CAZ BROKE DN HAD TO REPLACE STARTERSTG HSM, P/T SURFACE LINES TO 8500#	
	6:30 - 18:30	12.00	COMP	36	E	P		FRAC STG #1 MESAVERDE 8318'-8596' [40 HOLES] STG #1]WHP=1360#, BRK DN PERFS @ 3942#, INJ PSI=5000#, INJT RT=44, ISIP=2808#, FG=.76, PUMP'D 1410 BBLS SLK WTR W/ 50147# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2791, FG=.76, AR=47.3, AP=5171#, MR=48.6, MP=6080#, NPI=-17#, 40/40 CALC PERFS OPEN 100%. STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 8252', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 8218'-8222' 4 SPF, 90° PH, 16 HOLES. 8126'-8128' 4 SPF, 90° PH, 8 HOLES. 8084'-8088' 4 SPF, 90° PH, 16 HOLES. [40 HOLES]	
11/18/2009	6:30 - 7:00	0.50	COMP	48		P		HSM, P/T SURFACE LINES	

US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]		Spud Conductor: 8/4/2009	Spud Date: 8/8/2009
Project: UTAH-UINTAH		Site: NBU 1022-10B PAD	Rig Name No:
Event: COMPLETION		Start Date: 11/16/2009	End Date: 11/23/2009
Active Datum: RKB @5,462.00ft (above Mean Sea Level)		UWI: NBU 1022-10A4BS	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:00 - 18:30	11.50	COMP	36	E	P		FRAC STG#2 MESAVERDE 8084'-8222' [40 HOLES] STG #2]WHP=2187#, BRK DN PERFS @ 3600#, INJ PSI=5300#, INJT RT=47, ISIP=2988#, FG=.80, PUMP'D 1392 BBLS SLK WTR W/ 55648# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2925, FG=.79, AR=48.2, AP=5203#, MR=51.1, MP=6254#, NPI=-63#, 40/40 CALC PERFS OPEN 100%. STG #3] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 8010', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 7976'-7980' 4 SPF, 90* PH, 16 HOLES. 7904'-7906' 4 SPF, 90* PH, 8 HOLES. 7860'-7864' 4 SPF, 90* PH, 16 HOLES. [40 HOLES] STG #3]WHP=2031#, BRK DN PERFS @ 3647#, INJ PSI=4900#, INJT RT=50, ISIP=2417#, FG=.74, PUMP'D 2500 BBLS SLK WTR W/ 101302# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2375#, FG=.73, AR=48.8, AP=4828#, MR=50.2, MP=5320#, NPI=-42#, 40/40 CALC PERFS OPEN 100%. STG #4] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ ', PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE, 7758'-7762' 4 SPF, 90* PH, 16 HOLES. 7584'-7590' 4 SPF, 90* PH, 24 HOLES. [40 HOLES] STG #4]WHP=1222#, BRK DN PERFS @ 3476#, INJ PSI=5500#, INJT RT=50, ISIP=2183#, FG=.72, PUMP'D 1453 BBLS SLK WTR W/ 60141# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2403#, FG=.75, AR=49.2, AP=4571#, MR=50.1, MP=5650#, NPI=220#, 40/40 CALC PERFS OPEN 100%. HSM.
11/19/2009	6:30 - 6:45	0.25	COMP	48		P		

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]		Spud Conductor: 8/4/2009	Spud Date: 8/8/2009
Project: UTAH-UINTAH	Site: NBU 1022-10B PAD		Rig Name No:
Event: COMPLETION	Start Date: 11/16/2009	End Date: 11/23/2009	
Active Datum: RKB @5,462.00ft (above Mean Sea Level)		UWI: NBU 1022-10A4BS	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	6:45 - 18:00	11.25	COMP	36	E	P		<p>STG #5 P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 7290', PERF WASATCH USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE. 7258'-7260' 4 SPF, 90* PH, 8 HOLES. 7174'-7176' 4 SPF, 90* PH, 8 HOLES. 7124'-7126' 4 SPF, 90* PH, 8 HOLES. 7076'-7080' 4 SPF, 90* PH, 16 HOLES. [40 HOLES]</p> <p>STG #5]WHP=375#, BRK DN PERFS @ 2941#, INJ PSI=4600#, INJT RT=52, ISIP=1592#, FG=.65, PUMP'D 1253 BBLS SLK WTR W/ 51708# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2600#, FG=.80, AR=49.1, AP=4171#, MR=51.4, MP=4776#, NPI=1008#, 40/40 CALC PERFS OPEN 100%.</p> <p>STG #6] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 6975', PERF WASATCH USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE. 6943'-6945' 4 SPF, 90* PH, 8 HOLES. 6902'-6904' 4 SPF, 90* PH, 8 HOLES. 6897'-6881' 4 SPF, 90* PH, 8 HOLES. 6848'-6850' 4 SPF, 90* PH, 8 HOLES. 6806'-6808' 4 SPF, 90* PH, 8 HOLES. [40 HOLES]</p> <p>STG #6]WHP=923#, BRK DN PERFS @ 2925#, INJ PSI=4800#, INJT RT=51, ISIP=1778#, FG=.69, PUMP'D 1859 BBLS SLK WTR W/ 74137# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2561#, FG=.80, AR=51.3, AP=4428#, MR=52.6, MP=4992#, NPI=783#, 40/40 CALC PERFS OPEN 100%.</p> <p>P/U RIH W/ HALIBURTON 8K CBP & SET @ 6756' FOR TOP KILL. SWI. JSA- RDSU/ RUSU.</p> <p>RDSU FROM 10B4BS. MOVE OVER AND RUSU ON 10A4BS. (HAD TO INSTALL 2 ANCHORS). ND FRAC VALVES. NU BOP. RU FLOOR AND TBG EQUIP. SPOT IN TBG. MU 3-7/8" HURRICANE MILL, POBS AND 1.87" XN NIPPLE AND RIH AS MEAS AND PU 2-3/8" L-80 TBG. TAG AT 6729' W/ 212-JTS IN. RU PWR SWIVEL. FILL HOLE AND P-TEST TO 3000 PSI. GOOD. EST CIRC AND START D/O PLUGS.</p> <p>#1- C/O 27' SAND TO CBP AT 6756'. D/O IN 10 MIN. 25# INC. RIH. #2- C/O 76' SAND TO CBP AT 6975'. D/O IN 10 MIN. 25# INC. RIH. #3- C/O 116' SAND TO CBP AT 7290'. D/O IN 25 MIN. 600# INC. (PLUG PUSHED UPHOLE. LET EQUALIZE TO FIN D/O PLUG)</p> <p>CIRC AND FLOW CLEAN. DRAIN EQUIP. SHUT WELL IN. EOT AT 7318' W/ 230-JTS IN. SDFN JSA- ICE PLUGS. D/O PLUGS. SYM OPS.</p>
11/22/2009	6:45 - 7:00	0.25	COMP	48		P		
	7:00 - 18:00	11.00	COMP	31	I	P		
11/23/2009	6:45 - 7:00	0.25	COMP	48		P		

US ROCKIES REGION

Operation Summary Report

Well: NBU 1022-10A4BS [GREEN]		Spud Conductor: 8/4/2009	Spud Date: 8/8/2009
Project: UTAH-UINTAH		Site: NBU 1022-10B PAD	Rig Name No:
Event: COMPLETION		Start Date: 11/16/2009	End Date: 11/23/2009
Active Datum: RKB @5,462.00ft (above Mean Sea Level)		UWI: NBU 1022-10A4BS	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:00 - 17:00	10.00	COMP	44	C	P		<p>SITP 0, SICP 2200. BLOW DOWN CSG TO PIT. OPEN WELL AND RIH AS CONT D/O PLUGS.</p> <p>#4- C/O 40' SAND TO CBP AT 7792'. D/O IN 20 MIN. 150# INC. RIH.</p> <p>#5- C/O 27' SAND TO CBP AT 8010'. D/O IN 10 MIN. 100# INC. RIH.</p> <p>#6- C/O 22' SAND TO CBP AT 8252'. D/O IN MIN. 100# INC. RIH</p> <p>PBTD- C/O 54' SAND TO PBTD AT 8654' W/ 272 JTS IN. (58' RATHOLE).</p> <p>CIRC CLEAN. RD PWR SWIVEL. POOH AS LD 19 JTS. PU 7" 5K CAMERON HANGER. LUB IN, FLUSH BOWL AND LAND 253-JTS 2-3/8" L-80 W/ EOT AT 8059.80'. DROP BALL. RD FLOOR. ND BOP. NU WH. PMP DOWN TBG AND RELEASE POBS AT 1300#. SHUT WELL IN FOR 30 MIN. HOOK UP FLOW LINE. RACK OUT EQUIP. RDSU. TURN WELL OVER TO FLOW BACK CREW. SICP 2000, SITP 500. START TO FLOW WELL TO BACK TANK- TANK WASHED OUT. MOVE RIG TO NBU 1022-8IT AND RUSU.</p> <p>TBG DETAIL KB 13.00 316-JTS DELIVERED</p> <p>7" 5K CAMERON HANGER 1.00 63-JTS RETURNED</p> <p>253-JTS 2-3/8" L-80 TBG 8043.60 BBL</p> <p>PMP 8759</p> <p>1.87" XN (FE) 2.20 BBL</p> <p>RCVR 2125</p> <p>EOT 8059.80 BBL LTR 6634</p>
11/24/2009	7:00 -			33	A			<p>7 AM FLBK REPORT: CP 2800#, TP 1900#, 20/64" CK, 40 BWPH, HEAVY SAND, MEDIUM GAS</p> <p>TTL BBLS RECOVERED: 2915</p> <p>BBLS LEFT TO RECOVER: 5844</p>
11/25/2009	7:00 -			33	A			<p>7 AM FLBK REPORT: CP 2650#, TP 1825#, 20/64" CK, 30 BWPH, HEAVY SAND, - GAS</p> <p>TTL BBLS RECOVERED: 3830</p> <p>BBLS LEFT TO RECOVER: 4929</p>
	14:00 -		PROD	50				<p>WELL TURNED TO SALE @ 1400 HR ON 11/25/09</p> <p>- FTP 2150#, CP 3200#, 3.8 MCFD, 45 BWPD, 20/64 CK</p>
11/26/2009	7:00 -			33	A			<p>7 AM FLBK REPORT: CP 2400#, TP 1825#, 18/64" CK, 30 BWPH, MEDIUM SAND, 2575 GAS</p> <p>TTL BBLS RECOVERED: 4460</p> <p>BBLS LEFT TO RECOVER: 4299</p>
11/27/2009	7:00 -			33	A			<p>7 AM FLBK REPORT: CP 2450#, TP 1550#, 20/64" CK, 25 BWPH, MEDIUM SAND, - GAS</p> <p>TTL BBLS RECOVERED: 5075</p> <p>BBLS LEFT TO RECOVER: 3639</p>
	7:30 -		PROD	50				<p>WELL IP'D 11/27/09, 2536 MCFD, 0 BOPD, 480 BWPD, CP 2450#, FTP 1750#, CK 20/64", LP 236#, 24 HRS</p>



END OF WELL REPORT

Prepared For:

Kerr McGee Oil & Gas Onshore LP
NBU 1022-10A4BS
NBU 1022-10B Pad
Ensign 139
Uintah County, UT

Prepared By:

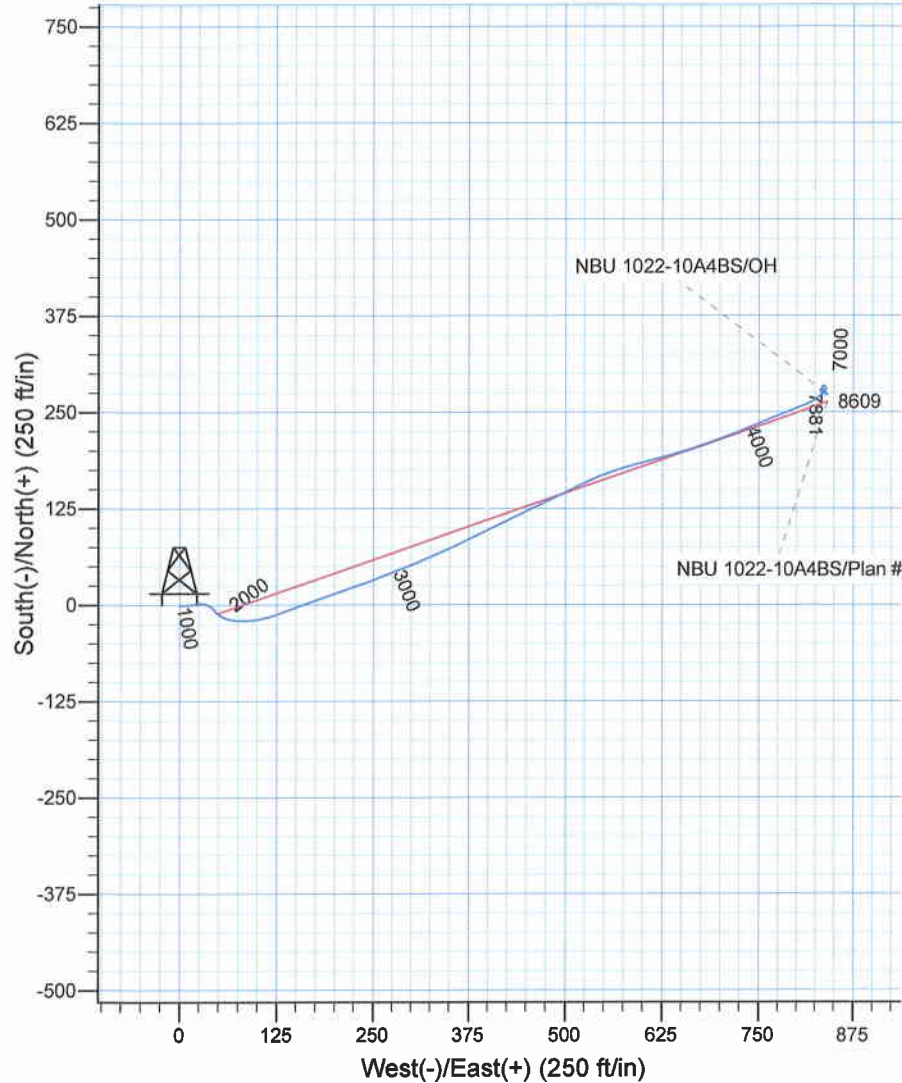
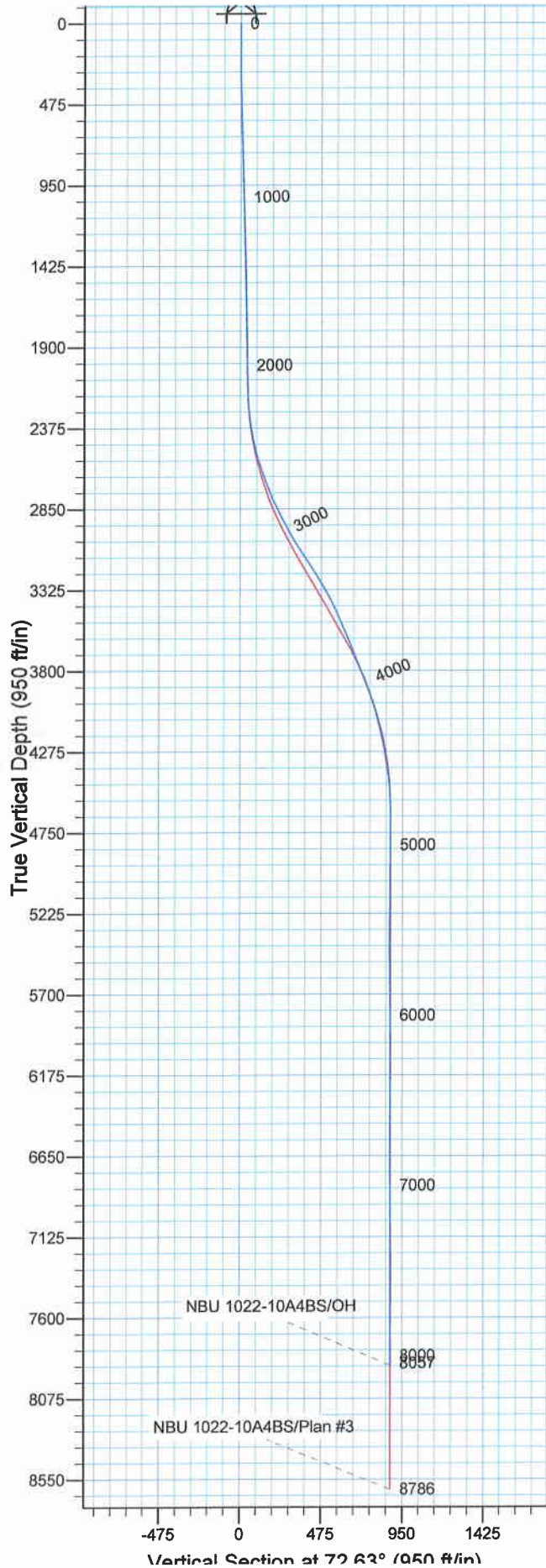
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WELL DETAILS: NBU 1022-10A4BS

Ground Level: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14518239.62	2082793.50	39° 58' 4.126 N	109° 25' 16.277 W

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well NBU 1022-10A4BS, True North
 Vertical (TVD) Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
 Section (VS) Reference: Slot - (0.00N, 0.00E)
 Measured Depth Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
 Calculation Method: Minimum Curvature
 Local North: True
 Location: Sec 10 T10S R22E

PROJECT DETAILS: Uintah County, UT UTM12

Geodetic System: Universal Transverse Mercator (US Survey Feet)
 Datum: NAD 1927 - Western US
 Ellipsoid: Clarke 1866
 Zone: Zone 12N (114 W to 108 W)

Design: OH (NBU 1022-10A4BS/OH)

Created By: Rex Hall Date: 2009-09-15

Kerr McGee Oil and Gas Onshore LP

**Uintah County, UT UTM12
NBU 1022-10B Pad
NBU 1022-10A4BS
OH**

Design: OH

Standard Survey Report

15 September, 2009

Scientific Drilling International

Survey Report

Company: Kerr McGee Oil and Gas Onshore LP
Project: Uintah County, UT UTM12
Site: NBU 1022-10B Pad
Well: NBU 1022-10A4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-10A4BS
TVD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
MD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Multi-User Db

Project	Uintah County, UT UTM12		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 - Western US		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	NBU 1022-10B Pad, Sec 10 T10S R22E			
Site Position:		Northing:	14,518,241.45 ft	Latitude: 39° 58' 4.158 N
From:	Lat/Long	Easting:	2,082,713.50 ft	Longitude: 109° 25' 17.304 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence: 1.01 °

Well	NBU 1022-10A4BS, 1067' FNL 1463' FEL			
Well Position	+N/-S	0.00 ft	Northing:	14,518,239.62 ft
	+E/-W	0.00 ft	Easting:	2,082,793.50 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft	Ground Level: 5,055.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	7/23/2009	11.26	65.91	52,539

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	72.63	

Survey Program	Date	9/15/2009			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
9.00	2,036.00	Survey #1 - Surface (OH)	MWD SDI	MWD - Standard ver 1.0.1	
2,162.00	8,057.00	Survey #2 - Production (OH)	MWD SDI	MWD - Standard ver 1.0.1	

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00
136.00	0.20	195.95	136.00	-0.21	-0.06	-0.12	0.16	0.16	0.00
206.00	0.62	127.55	206.00	-0.56	0.21	0.03	0.82	0.60	-97.71
296.00	0.61	82.42	295.99	-0.79	1.07	0.78	0.52	-0.01	-50.14
386.00	1.55	93.24	385.98	-0.80	2.76	2.39	1.06	1.04	12.02
746.00	1.86	83.46	745.82	-0.41	13.42	12.69	0.12	0.09	-2.72
836.00	1.56	79.85	835.78	-0.03	16.08	15.34	0.35	-0.33	-4.01
926.00	1.94	84.63	925.74	0.33	18.80	18.04	0.45	0.42	5.31
1,016.00	1.69	79.08	1,015.69	0.72	21.62	20.85	0.34	-0.28	-6.17
1,106.00	1.60	84.91	1,105.65	1.09	24.18	23.40	0.21	-0.10	6.48
1,196.00	1.67	81.83	1,195.62	1.39	26.73	25.92	0.12	0.08	-3.42

Scientific Drilling International

Survey Report

Company: Kerr McGee Oil and Gas Onshore LP
Project: Uintah County, UT UTM12
Site: NBU 1022-10B Pad
Well: NBU 1022-10A4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-10A4BS
TVD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
MD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Multi-User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,286.00	1.36	85.76	1,285.58	1.65	29.09	28.26	0.36	-0.34	4.37
1,376.00	1.61	110.11	1,375.56	1.29	31.34	30.30	0.75	0.28	27.06
1,466.00	1.82	101.63	1,465.52	0.57	33.93	32.55	0.37	0.23	-9.42
1,556.00	1.75	115.59	1,555.47	-0.31	36.57	34.81	0.49	-0.08	15.51
1,646.00	1.48	126.65	1,645.44	-1.60	38.74	36.50	0.46	-0.30	12.29
1,736.00	1.67	119.45	1,735.40	-2.94	40.81	38.08	0.30	0.21	-8.00
1,826.00	1.73	138.27	1,825.36	-4.59	42.86	39.53	0.62	0.07	20.91
1,916.00	1.69	140.95	1,915.32	-6.64	44.60	40.58	0.10	-0.04	2.98
2,006.00	1.74	145.29	2,005.28	-8.79	46.22	41.48	0.15	0.06	4.82
2,036.00	1.95	138.01	2,035.27	-9.55	46.82	41.83	1.05	0.70	-24.27
Last Surface Survey									
2,162.00	2.93	128.02	2,161.15	-13.12	50.79	44.55	0.84	0.78	-7.93
First SDI Production MWD Survey									
2,253.00	6.02	114.54	2,251.87	-16.54	56.96	49.43	3.56	3.40	-14.81
2,344.00	8.94	98.72	2,342.09	-19.59	68.30	59.33	3.90	3.21	-17.38
2,434.00	11.39	91.10	2,430.68	-20.82	84.10	74.04	3.10	2.72	-8.47
2,525.00	13.83	78.23	2,519.49	-18.78	103.73	93.40	4.07	2.68	-14.14
2,615.00	18.79	70.70	2,605.85	-11.79	127.96	118.61	5.98	5.51	-8.37
2,706.00	20.56	68.53	2,691.54	-1.09	156.67	149.20	2.10	1.95	-2.38
2,797.00	23.10	72.05	2,776.01	10.26	188.53	182.99	3.14	2.79	3.87
2,888.00	26.41	69.90	2,858.64	22.72	224.53	221.07	3.77	3.64	-2.36
2,978.00	27.83	68.62	2,938.74	37.26	262.89	262.02	1.71	1.58	-1.42
3,068.00	31.60	68.46	3,016.89	53.58	304.40	306.51	4.19	4.19	-0.18
3,159.00	33.48	65.92	3,093.61	72.58	349.50	355.22	2.55	2.07	-2.79
3,249.00	32.27	63.57	3,169.19	93.40	393.68	403.61	1.95	-1.34	-2.61
3,340.00	32.59	64.55	3,246.00	114.74	437.56	451.86	0.68	0.35	1.08
3,430.00	29.74	62.79	3,323.01	135.37	479.31	497.86	3.32	-3.17	-1.96
3,521.00	26.13	64.35	3,403.39	154.37	517.46	539.95	4.05	-3.97	1.71
3,611.00	23.59	68.60	3,485.05	169.53	552.10	577.53	3.45	-2.82	4.72
3,702.00	22.39	75.63	3,568.84	180.47	585.85	613.01	3.29	-1.32	7.73
3,792.00	23.12	75.56	3,651.83	189.13	619.57	647.78	0.81	0.81	-0.08
3,883.00	21.32	71.87	3,736.08	198.74	652.59	682.16	2.50	-1.98	-4.05
3,973.00	22.85	70.14	3,819.47	209.77	684.58	715.98	1.85	1.70	-1.92
4,064.00	20.27	69.19	3,904.10	221.37	715.94	749.38	2.86	-2.84	-1.04
4,154.00	17.45	67.96	3,989.26	231.98	743.02	778.39	3.16	-3.13	-1.37
4,245.00	15.09	67.24	4,076.61	241.68	766.60	803.79	2.60	-2.59	-0.79
4,335.00	12.03	68.02	4,164.09	249.72	786.10	824.81	3.41	-3.40	0.87
4,426.00	10.88	71.51	4,253.28	256.00	803.04	842.85	1.47	-1.26	3.84
4,516.00	9.04	63.62	4,341.92	261.83	817.43	858.32	2.54	-2.04	-8.77
4,607.00	6.59	55.55	4,432.07	267.97	828.15	870.38	2.94	-2.69	-8.87
4,698.00	4.18	49.77	4,522.66	273.06	834.99	878.43	2.71	-2.65	-6.35
4,789.00	1.45	6.63	4,613.55	276.35	837.65	881.95	3.60	-3.00	-47.41
4,879.00	0.80	303.67	4,703.54	277.83	837.26	882.02	1.44	-0.72	-69.96
4,970.00	0.61	315.77	4,794.53	278.53	836.39	881.40	0.26	-0.21	13.30
5,061.00	0.81	308.71	4,885.52	279.28	835.55	880.83	0.24	0.22	-7.76
5,151.00	1.01	313.15	4,975.51	280.22	834.48	880.08	0.24	0.22	4.93
5,242.00	0.49	199.85	5,066.51	280.40	833.76	879.45	1.41	-0.57	-124.51
5,332.00	0.71	213.43	5,156.50	279.57	833.32	878.79	0.29	0.24	15.09
5,422.00	0.59	195.20	5,246.50	278.66	832.89	878.10	0.26	-0.13	-20.26
5,513.00	0.52	211.43	5,337.49	277.86	832.56	877.54	0.19	-0.08	17.84
5,604.00	0.67	166.64	5,428.49	276.99	832.46	877.19	0.52	0.16	-49.22
5,694.00	0.61	149.39	5,518.48	276.06	832.83	877.27	0.22	-0.07	-19.17
5,785.00	0.68	51.04	5,609.48	275.98	833.50	877.88	1.07	0.08	-108.08
5,875.00	0.75	69.92	5,699.47	276.52	834.46	878.96	0.27	0.08	20.98

Scientific Drilling International

Survey Report

Company: Kerr McGee Oil and Gas Onshore LP
Project: Uintah County, UT UTM12
Site: NBU 1022-10B Pad
Well: NBU 1022-10A4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-10A4BS
TVD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
MD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Multi-User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,966.00	0.91	96.66	5,790.46	276.64	835.74	880.22	0.46	0.18	29.38
6,056.00	1.25	43.31	5,880.45	277.27	837.12	881.73	1.13	0.38	-59.28
6,147.00	1.24	51.84	5,971.43	278.60	838.58	883.51	0.20	-0.01	9.37
6,237.00	1.37	9.01	6,061.40	280.27	839.51	884.90	1.07	0.14	-47.59
6,328.00	2.38	310.98	6,152.36	282.58	838.26	884.39	2.22	1.11	-63.77
6,419.00	1.49	247.20	6,243.32	283.36	835.74	882.22	2.39	-0.98	-70.09
6,509.00	2.59	177.99	6,333.27	280.88	834.73	880.52	2.76	1.22	-76.90
6,600.00	1.13	128.92	6,424.23	278.26	835.50	880.47	2.24	-1.60	-53.92
6,690.00	0.76	211.18	6,514.22	277.19	835.88	880.52	1.42	-0.41	91.40
6,781.00	0.83	214.22	6,605.21	276.13	835.20	879.55	0.09	0.08	3.34
6,871.00	0.49	95.55	6,695.20	275.55	835.22	879.39	1.28	-0.38	-131.86
6,962.00	0.81	112.34	6,786.20	275.27	836.20	880.25	0.41	0.35	18.45
7,052.00	0.57	104.46	6,876.19	274.92	837.22	881.12	0.29	-0.27	-8.76
7,143.00	0.48	88.73	6,967.19	274.81	838.04	881.87	0.19	-0.10	-17.29
7,234.00	0.71	95.12	7,058.18	274.77	838.98	882.75	0.26	0.25	7.02
7,324.00	0.91	120.15	7,148.17	274.36	840.16	883.75	0.45	0.22	27.81
7,415.00	1.05	156.49	7,239.16	273.23	841.12	884.33	0.69	0.15	39.93
7,505.00	0.51	273.53	7,329.16	272.50	841.04	884.04	1.51	-0.60	130.04
7,595.00	0.43	258.68	7,419.15	272.46	840.31	883.33	0.16	-0.09	-16.50
7,686.00	0.51	300.91	7,510.15	272.60	839.63	882.72	0.38	0.09	46.41
7,776.00	0.36	325.95	7,600.15	273.04	839.13	882.38	0.27	-0.17	27.82
7,867.00	0.34	334.15	7,691.15	273.52	838.85	882.25	0.06	-0.02	9.01
7,958.00	0.20	103.34	7,782.15	273.73	838.89	882.35	0.54	-0.15	141.97
8,002.00	0.17	89.69	7,826.15	273.71	839.03	882.48	0.12	-0.07	-31.02
Last SDI Production MWD Survey									
8,057.00	0.17	89.69	7,881.15	273.71	839.19	882.64	0.00	0.00	0.00
Projection To TD									

Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
NBU 1022-10A4BS PBH	0.00	0.00	8,609.00	263.26	841.53	14,518,517.74	2,083,630.23	39° 58' 6.728 N	109° 25' 5.467 W
- actual wellpath misses target center by 727.93ft at 8057.00ft MD (7881.15 TVD, 273.71 N, 839.19 E)									
- Circle (radius 25.00)									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,036.00	2,035.27	-9.55	46.82	Last Surface Survey
2,162.00	2,161.15	-13.12	50.79	First SDI Production MWD Survey
8,002.00	7,826.15	273.71	839.03	Last SDI Production MWD Survey
8,057.00	7,881.15	273.71	839.19	Projection To TD

Checked By: _____ Approved By: _____ Date: _____

Kerr McGee Oil and Gas Onshore LP

Uintah County, UT UTM12

NBU 1022-10B Pad

NBU 1022-10A4BS

OH

Design: OH

Survey Report - Geographic

15 September, 2009

Scientific Drilling International

Survey Report - Geographic

Company: Kerr McGee Oil and Gas Onshore LP
Project: Uintah County, UT UTM12
Site: NBU 1022-10B Pad
Well: NBU 1022-10A4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-10A4BS
TVD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
MD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Multi-User Db

Project Uintah County, UT UTM12

Map System: Universal Transverse Mercator (US Survey Feet)
Geo Datum: NAD 1927 - Western US
Map Zone: Zone 12N (114 W to 108 W)

System Datum: Mean Sea Level

Site NBU 1022-10B Pad, Sec 10 T10S R22E

Site Position: Northing: 14,518,241.45 ft Latitude: 39° 58' 4.158 N
From: Lat/Long Easting: 2,082,713.50 ft Longitude: 109° 25' 17.304 W
Position Uncertainty: 0.00 ft Slot Radius: in Grid Convergence: 1.01 °

Well NBU 1022-10A4BS, 1067' FNL 1463' FEL

Well Position +N/-S 0.00 ft Northing: 14,518,239.62 ft Latitude: 39° 58' 4.126 N
 +E/-W 0.00 ft Easting: 2,082,793.50 ft Longitude: 109° 25' 16.277 W
Position Uncertainty 0.00 ft Wellhead Elevation: ft Ground Level: 5,055.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	7/23/2009	11.26	65.91	52,539

Design OH

Audit Notes:

Version: 1.0 **Phase:** ACTUAL **Tie On Depth:** 0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	72.63

Survey Program **Date** 9/15/2009

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
9.00	2,036.00	Survey #1 - Surface (OH)	MWD SDI	MWD - Standard ver 1.0.1
2,162.00	8,057.00	Survey #2 - Production (OH)	MWD SDI	MWD - Standard ver 1.0.1

Scientific Drilling International

Survey Report - Geographic

Company: Kerr McGee Oil and Gas Onshore LP
Project: Uintah County, UT UTM12
Site: NBU 1022-10B Pad
Well: NBU 1022-10A4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-10A4BS
TVD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
MD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Multi-User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,518,239.62	2,082,793.50	39° 58' 4.126 N	109° 25' 16.277 W
9.00	0.00	0.00	9.00	0.00	0.00	14,518,239.62	2,082,793.50	39° 58' 4.126 N	109° 25' 16.277 W
136.00	0.20	195.95	136.00	-0.21	-0.06	14,518,239.41	2,082,793.44	39° 58' 4.124 N	109° 25' 16.278 W
206.00	0.62	127.55	206.00	-0.56	0.21	14,518,239.07	2,082,793.71	39° 58' 4.120 N	109° 25' 16.274 W
296.00	0.61	82.42	295.99	-0.79	1.07	14,518,238.85	2,082,794.58	39° 58' 4.118 N	109° 25' 16.263 W
386.00	1.55	93.24	385.98	-0.80	2.76	14,518,238.87	2,082,796.27	39° 58' 4.118 N	109° 25' 16.242 W
746.00	1.86	83.46	745.82	-0.41	13.42	14,518,239.45	2,082,806.93	39° 58' 4.122 N	109° 25' 16.105 W
836.00	1.56	79.85	835.78	-0.03	16.08	14,518,239.88	2,082,809.57	39° 58' 4.126 N	109° 25' 16.070 W
926.00	1.94	84.63	925.74	0.33	18.80	14,518,240.29	2,082,812.29	39° 58' 4.129 N	109° 25' 16.035 W
1,016.00	1.69	79.08	1,015.69	0.72	21.62	14,518,240.73	2,082,815.10	39° 58' 4.133 N	109° 25' 15.999 W
1,106.00	1.60	84.91	1,105.65	1.09	24.18	14,518,241.14	2,082,817.65	39° 58' 4.137 N	109° 25' 15.966 W
1,196.00	1.67	81.83	1,195.62	1.39	26.73	14,518,241.48	2,082,820.19	39° 58' 4.140 N	109° 25' 15.934 W
1,286.00	1.36	85.76	1,285.58	1.65	29.09	14,518,241.79	2,082,822.55	39° 58' 4.142 N	109° 25' 15.903 W
1,376.00	1.61	110.11	1,375.56	1.29	31.34	14,518,241.47	2,082,824.81	39° 58' 4.139 N	109° 25' 15.874 W
1,466.00	1.82	101.63	1,465.52	0.57	33.93	14,518,240.80	2,082,827.41	39° 58' 4.132 N	109° 25' 15.841 W
1,556.00	1.75	115.59	1,555.47	-0.31	36.57	14,518,239.96	2,082,830.07	39° 58' 4.123 N	109° 25' 15.807 W
1,646.00	1.48	126.65	1,645.44	-1.60	38.74	14,518,238.71	2,082,832.26	39° 58' 4.110 N	109° 25' 15.779 W
1,736.00	1.67	119.45	1,735.40	-2.94	40.81	14,518,237.41	2,082,834.36	39° 58' 4.097 N	109° 25' 15.753 W
1,826.00	1.73	138.27	1,825.36	-4.59	42.86	14,518,235.79	2,082,836.43	39° 58' 4.081 N	109° 25' 15.726 W
1,916.00	1.69	140.95	1,915.32	-6.64	44.60	14,518,233.78	2,082,838.21	39° 58' 4.060 N	109° 25' 15.704 W
2,006.00	1.74	145.29	2,005.28	-8.79	46.22	14,518,231.65	2,082,839.86	39° 58' 4.039 N	109° 25' 15.683 W
2,036.00	1.95	138.01	2,035.27	-9.55	46.82	14,518,230.91	2,082,840.48	39° 58' 4.032 N	109° 25' 15.676 W
Last Surface Survey									
2,162.00	2.93	128.02	2,161.15	-13.12	50.79	14,518,227.40	2,082,844.51	39° 58' 3.996 N	109° 25' 15.625 W
First SDI Production MWD Survey									
2,253.00	6.02	114.54	2,251.87	-16.54	56.96	14,518,224.10	2,082,850.74	39° 58' 3.963 N	109° 25' 15.545 W
2,344.00	8.94	98.72	2,342.09	-19.59	68.30	14,518,221.24	2,082,862.13	39° 58' 3.932 N	109° 25' 15.400 W
2,434.00	11.39	91.10	2,430.68	-20.82	84.10	14,518,220.29	2,082,877.95	39° 58' 3.920 N	109° 25' 15.197 W
2,525.00	13.83	78.23	2,519.49	-18.78	103.73	14,518,222.69	2,082,897.55	39° 58' 3.940 N	109° 25' 14.944 W
2,615.00	18.79	70.70	2,605.85	-11.79	127.96	14,518,230.10	2,082,921.65	39° 58' 4.009 N	109° 25' 14.633 W
2,706.00	20.56	68.53	2,691.54	-1.09	156.67	14,518,241.30	2,082,950.16	39° 58' 4.115 N	109° 25' 14.265 W
2,797.00	23.10	72.05	2,776.01	10.26	188.53	14,518,253.22	2,082,981.81	39° 58' 4.227 N	109° 25' 13.855 W
2,888.00	26.41	69.90	2,858.64	22.72	224.53	14,518,266.31	2,083,017.59	39° 58' 4.351 N	109° 25' 13.393 W
2,978.00	27.83	68.62	2,938.74	37.26	262.89	14,518,281.53	2,083,055.68	39° 58' 4.494 N	109° 25' 12.900 W
3,068.00	31.60	68.46	3,016.89	53.58	304.40	14,518,298.58	2,083,096.90	39° 58' 4.656 N	109° 25' 12.367 W
3,159.00	33.48	65.92	3,093.61	72.58	349.50	14,518,318.38	2,083,141.65	39° 58' 4.843 N	109° 25' 11.788 W
3,249.00	32.27	63.57	3,169.19	93.40	393.68	14,518,339.98	2,083,185.46	39° 58' 5.049 N	109° 25' 11.220 W
3,340.00	32.59	64.55	3,246.00	114.74	437.56	14,518,362.10	2,083,228.96	39° 58' 5.260 N	109° 25' 10.656 W
3,430.00	29.74	62.79	3,323.01	135.37	479.31	14,518,383.46	2,083,270.33	39° 58' 5.464 N	109° 25' 10.120 W
3,521.00	26.13	64.35	3,403.39	154.37	517.46	14,518,403.13	2,083,308.14	39° 58' 5.652 N	109° 25' 9.630 W
3,611.00	23.59	68.60	3,485.05	169.53	552.10	14,518,418.90	2,083,342.51	39° 58' 5.802 N	109° 25' 9.185 W
3,702.00	22.39	75.63	3,568.84	180.47	585.85	14,518,430.44	2,083,376.06	39° 58' 5.910 N	109° 25' 8.751 W
3,792.00	23.12	75.56	3,651.83	189.13	619.57	14,518,439.70	2,083,409.62	39° 58' 5.995 N	109° 25' 8.318 W
3,883.00	21.32	71.87	3,736.08	198.74	652.59	14,518,449.88	2,083,442.47	39° 58' 6.090 N	109° 25' 7.894 W
3,973.00	22.85	70.14	3,819.47	209.77	684.58	14,518,461.48	2,083,474.25	39° 58' 6.199 N	109° 25' 7.483 W
4,064.00	20.27	69.19	3,904.10	221.37	715.94	14,518,473.64	2,083,505.40	39° 58' 6.314 N	109° 25' 7.080 W
4,154.00	17.45	67.96	3,989.26	231.98	743.02	14,518,484.72	2,083,532.30	39° 58' 6.419 N	109° 25' 6.732 W
4,245.00	15.09	67.24	4,076.61	241.68	766.60	14,518,494.84	2,083,555.70	39° 58' 6.515 N	109° 25' 6.430 W
4,335.00	12.03	68.02	4,164.09	249.72	786.10	14,518,503.23	2,083,575.05	39° 58' 6.594 N	109° 25' 6.179 W
4,426.00	10.88	71.51	4,253.28	256.00	803.04	14,518,509.80	2,083,591.88	39° 58' 6.656 N	109° 25' 5.961 W
4,516.00	9.04	63.62	4,341.92	261.83	817.43	14,518,515.89	2,083,606.17	39° 58' 6.714 N	109° 25' 5.777 W
4,607.00	6.59	55.55	4,432.07	267.97	828.15	14,518,522.21	2,083,616.77	39° 58' 6.775 N	109° 25' 5.639 W
4,698.00	4.18	49.77	4,522.66	273.06	834.99	14,518,527.43	2,083,623.52	39° 58' 6.825 N	109° 25' 5.551 W
4,789.00	1.45	6.63	4,613.55	276.35	837.65	14,518,530.76	2,083,626.12	39° 58' 6.857 N	109° 25' 5.517 W
4,879.00	0.80	303.67	4,703.54	277.83	837.26	14,518,532.23	2,083,625.71	39° 58' 6.872 N	109° 25' 5.522 W

Scientific Drilling International

Survey Report - Geographic

Company: Kerr McGee Oil and Gas Onshore LP
Project: Uintah County, UT UTM12
Site: NBU 1022-10B Pad
Well: NBU 1022-10A4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well NBU 1022-10A4BS
 GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
 GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
 True
 Minimum Curvature
 EDM 2003.16 Multi-User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
4,970.00	0.61	315.77	4,794.53	278.53	836.39	14,518,532.91	2,083,624.83	39° 58' 6.879 N	109° 25' 5.533 W
5,061.00	0.81	308.71	4,885.52	279.28	835.55	14,518,533.65	2,083,623.97	39° 58' 6.886 N	109° 25' 5.544 W
5,151.00	1.01	313.15	4,975.51	280.22	834.48	14,518,534.57	2,083,622.88	39° 58' 6.896 N	109° 25' 5.558 W
5,242.00	0.49	199.85	5,066.51	280.40	833.76	14,518,534.74	2,083,622.16	39° 58' 6.897 N	109° 25' 5.567 W
5,332.00	0.71	213.43	5,156.50	279.57	833.32	14,518,533.91	2,083,621.74	39° 58' 6.889 N	109° 25' 5.572 W
5,422.00	0.59	195.20	5,246.50	278.66	832.89	14,518,532.99	2,083,621.33	39° 58' 6.880 N	109° 25' 5.578 W
5,513.00	0.52	211.43	5,337.49	277.86	832.56	14,518,532.17	2,083,621.00	39° 58' 6.872 N	109° 25' 5.582 W
5,604.00	0.67	166.64	5,428.49	276.99	832.46	14,518,531.30	2,083,620.93	39° 58' 6.864 N	109° 25' 5.583 W
5,694.00	0.61	149.39	5,518.48	276.06	832.83	14,518,530.39	2,083,621.31	39° 58' 6.855 N	109° 25' 5.579 W
5,785.00	0.68	51.04	5,609.48	275.98	833.50	14,518,530.32	2,083,621.98	39° 58' 6.854 N	109° 25' 5.570 W
5,875.00	0.75	69.92	5,699.47	276.52	834.46	14,518,530.88	2,083,622.93	39° 58' 6.859 N	109° 25' 5.558 W
5,966.00	0.91	96.66	5,790.46	276.64	835.74	14,518,531.02	2,083,624.21	39° 58' 6.860 N	109° 25' 5.541 W
6,056.00	1.25	43.31	5,880.45	277.27	837.12	14,518,531.67	2,083,625.58	39° 58' 6.867 N	109° 25' 5.524 W
6,147.00	1.24	51.84	5,971.43	278.60	838.58	14,518,533.03	2,083,627.01	39° 58' 6.880 N	109° 25' 5.505 W
6,237.00	1.37	9.01	6,061.40	280.27	839.51	14,518,534.71	2,083,627.92	39° 58' 6.896 N	109° 25' 5.493 W
6,328.00	2.38	310.98	6,152.36	282.58	838.26	14,518,537.00	2,083,626.62	39° 58' 6.919 N	109° 25' 5.509 W
6,419.00	1.49	247.20	6,243.32	283.36	835.74	14,518,537.74	2,083,624.09	39° 58' 6.927 N	109° 25' 5.541 W
6,509.00	2.59	177.99	6,333.27	280.88	834.73	14,518,535.23	2,083,623.13	39° 58' 6.902 N	109° 25' 5.554 W
6,600.00	1.13	128.92	6,424.23	278.26	835.50	14,518,532.63	2,083,623.94	39° 58' 6.876 N	109° 25' 5.544 W
6,690.00	0.76	211.18	6,514.22	277.19	835.88	14,518,531.57	2,083,624.34	39° 58' 6.866 N	109° 25' 5.540 W
6,781.00	0.83	214.22	6,605.21	276.13	835.20	14,518,530.50	2,083,623.68	39° 58' 6.855 N	109° 25' 5.548 W
6,871.00	0.49	95.55	6,695.20	275.55	835.22	14,518,529.92	2,083,623.70	39° 58' 6.850 N	109° 25' 5.548 W
6,962.00	0.81	112.34	6,786.20	275.27	836.20	14,518,529.65	2,083,624.69	39° 58' 6.847 N	109° 25' 5.535 W
7,052.00	0.57	104.46	6,876.19	274.92	837.22	14,518,529.32	2,083,625.72	39° 58' 6.843 N	109° 25' 5.522 W
7,143.00	0.48	88.73	6,967.19	274.81	838.04	14,518,529.23	2,083,626.54	39° 58' 6.842 N	109° 25' 5.512 W
7,234.00	0.71	95.12	7,058.18	274.77	838.98	14,518,529.20	2,083,627.48	39° 58' 6.842 N	109° 25' 5.500 W
7,324.00	0.91	120.15	7,148.17	274.36	840.16	14,518,528.82	2,083,628.66	39° 58' 6.838 N	109° 25' 5.485 W
7,415.00	1.05	156.49	7,239.16	273.23	841.12	14,518,527.71	2,083,629.64	39° 58' 6.827 N	109° 25' 5.472 W
7,505.00	0.51	273.53	7,329.16	272.50	841.04	14,518,526.97	2,083,629.58	39° 58' 6.819 N	109° 25' 5.473 W
7,595.00	0.43	258.68	7,419.15	272.46	840.31	14,518,526.92	2,083,628.85	39° 58' 6.819 N	109° 25' 5.483 W
7,686.00	0.51	300.91	7,510.15	272.60	839.63	14,518,527.05	2,083,628.17	39° 58' 6.820 N	109° 25' 5.491 W
7,776.00	0.36	325.95	7,600.15	273.04	839.13	14,518,527.48	2,083,627.66	39° 58' 6.825 N	109° 25' 5.498 W
7,867.00	0.34	334.15	7,691.15	273.52	838.85	14,518,527.95	2,083,627.37	39° 58' 6.829 N	109° 25' 5.501 W
7,958.00	0.20	103.34	7,782.15	273.73	838.89	14,518,528.16	2,083,627.41	39° 58' 6.831 N	109° 25' 5.501 W
8,002.00	0.17	89.69	7,826.15	273.71	839.03	14,518,528.15	2,083,627.55	39° 58' 6.831 N	109° 25' 5.499 W
Last SDI Production MWD Survey									
8,057.00	0.17	89.69	7,881.15	273.71	839.19	14,518,528.15	2,083,627.71	39° 58' 6.831 N	109° 25' 5.497 W
Projection To TD									

Scientific Drilling International

Survey Report - Geographic

Company: Kerr McGee Oil and Gas Onshore LP
Project: Uintah County, UT UTM12
Site: NBU 1022-10B Pad
Well: NBU 1022-10A4BS
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 1022-10A4BS
TVD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
MD Reference: GL 5055' & RKB 13' @ 5068.00ft (Ensign 139)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Multi-User Db

Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
NBU 1022-10A4BS PBH	0.00	0.00	8,609.00	263.26	841.53	14,518,517.74	2,083,630.23	39° 58' 6.728 N	109° 25' 5.467 W
- actual wellpath misses target center by 727.93ft at 8057.00ft MD (7881.15 TVD, 273.71 N, 839.19 E) - Circle (radius 25.00)									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,036.00	2,035.27	-9.55	46.82	Last Surface Survey
2,162.00	2,161.15	-13.12	50.79	First SDI Production MWD Survey
8,002.00	7,826.15	273.71	839.03	Last SDI Production MWD Survey
8,057.00	7,881.15	273.71	839.19	Projection To TD

Checked By: _____ Approved By: _____ Date: _____